

La Cañada Flintridge

Climate Action Plan 2016

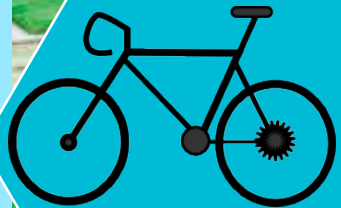




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ACRONYMNS AND ABBREVIATIONS

AB	Assembly Bill	EA/REDA	Energy Audit and Renewable Energy Development Assistance
AEP	Association of Environmental Professionals	EMFAC	on-road vehicle emission factors model
ARB	California Air Resources Board	EPA	United States Environmental Protection Agency
ARTS	Pasadena Area Rapid Transit	GHG	greenhouse gas emissions
AQ	Air Quality (i.e., General Plan Air Quality Element)	GPS	global positioning system
BTU	British thermal unit	GWP	global warming potential
CalMAX	California Materials Exchange	ICLEI	International Council for Local Environmental Initiatives
CalRecycle	California Department of Resources, Recycling, and Recovery	IOUs	Investor Owned Utilities
CAP	climate action plan	ITS	intelligent transportation systems
CEQA	California Environmental Quality Act	JPL	Jet Propulsion Lab
CH ₄	methane	kW	kilowatt
CE	Circulation Element	kWh	kilowatt hours
CNE	Conservation Element	L2L	Laundry-to-Landscape
CNG	compressed natural gas	lbs.	pounds
CO ₂	carbon dioxide	LGOP	Local Government Operations Protocol
CO ₂ e	carbon dioxide equivalent	LIHEAP	Low Income Home Energy Assistance Program
CREBs	Clean Renewable Energy Bonds	LNG	liquefied natural gas
EAP	Energy Action Plan	LUE	Land Use Element

MMBTU	one billion British thermal units
MT	metric tons
N ₂ O	nitrous oxide
NEV	neighborhood electric vehicles
OSRE	Open Space/Recreation Element
QECB	Qualified Energy Conservation Bonds
RAP	recycled asphalt pavement
REAP	Rural Energy for America Program
RES-BCT	Renewable Energy Self-Generation Bill Credit Transfer Program
RTP/SCS	Regional Transportation Plan/ Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SE	Safety Element
SF ₆	sulfur hexafluoride
TDM	transportation demand management
VMT	vehicle miles travelled
WUI	wildland-urban interface





DESCANSO GARDENS

Executive Summary

Climate Action Planning

The City of La Cañada Flintridge Climate Action Plan (CAP) is a long-range plan to reduce greenhouse gas (GHG) emissions from City government operations and community activities in La Cañada Flintridge and prepare for the anticipated effects of climate change. The CAP will also help achieve multiple community goals such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life.

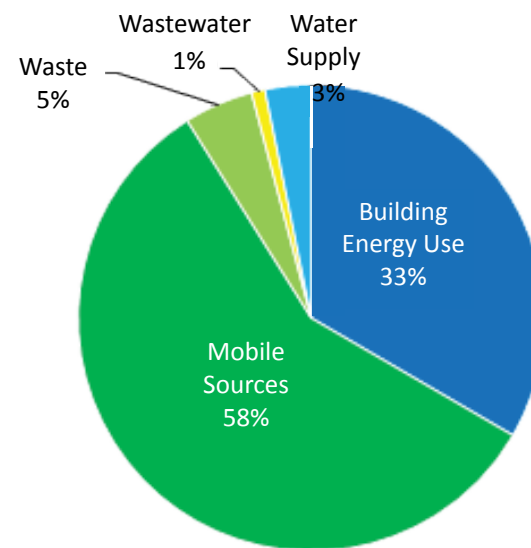
Greenhouse Gas Emissions Inventory

The La Cañada Flintridge Greenhouse Gas Emissions Inventory Update was prepared to identify the major sources and quantities of GHG emissions produced in the city in 2014, and compare those emissions to the 2007 baseline to observe how emissions have changed over time. The GHG Emissions Inventory provides information on the scale

of emissions from various sources and where the opportunities to reduce emissions lie.

According to the 2014 inventory the La Cañada Flintridge community generated approximately 203,775 metric tons of carbon dioxide equivalent GHG emissions (MT of CO₂e).

FIGURE 1. GHG EMISSIONS SOURCES



As shown in Figure 1, the largest contributors of GHG emissions were mobile sources (58 percent) and building energy use (33 percent). Municipal GHG emissions totaled 238 MT of CO₂e, or less than one percent of that total.

Forecasts

The GHG emission forecast is a projection of how emissions will change in the future based on the projected growth that would be accommodated by the General Plan. The “business-as-usual scenario” provides a forecast of how GHG emissions would change in the years 2020 and 2035 if 2014 consumption trends and efficiencies continue and absent any new federal, state, regional, or local policies or actions that would reduce emissions. The year 2020 was selected to maintain consistency with the AB 32 target year and the year 2035 was selected to maintain consistency with the General Plan horizon year.¹

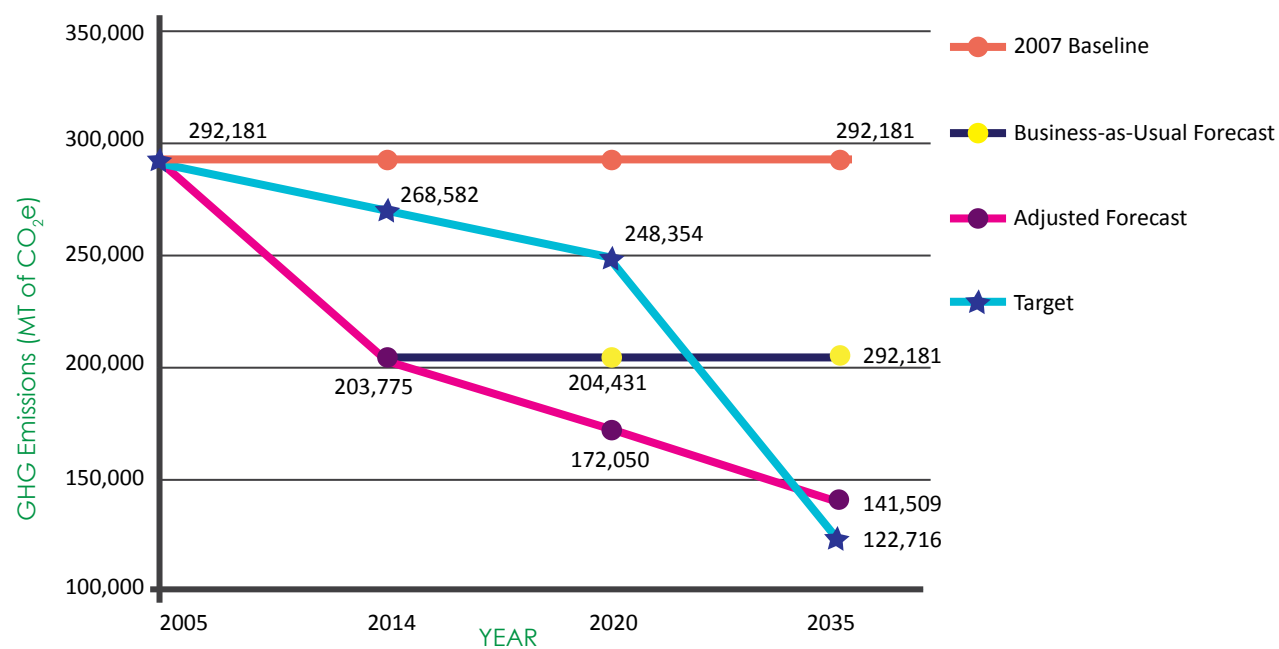
Under the business-as-usual scenario, La Cañada Flintridge’s GHG emissions are projected to grow approximately 0.3 percent above 2014 GHG emissions levels by the year 2020 (203,775 MT of CO₂e to 204,431 MT of CO₂e, and by approximately 0.8 percent by the year 2035 (203,775 to 206,074 MT

¹ AB 32 codified the State’s 2020 GHG emissions target by directing CARB to reduce California’s statewide emissions to 1990 levels by 2020. The AB 32 Scoping Plan encourages local governments to adopt a target that parallels the State’s target (refer to Figure 8 on page 15).

of CO₂e). Figure 2 shows the forecast results of the business-as-usual scenario.

The AB 32 Climate Change Scoping Plan (AB 32 Scoping Plan 2008), prepared by the California Air Resources Board (CARB) pursuant to AB 32, identifies several State measures that are approved, programmed, and/or adopted and would reduce GHG emissions within La Cañada Flintridge. These State measures require no additional local action. Therefore, these measures were incorporated into the forecast and reduction assessment to create an “adjusted scenario” that provides a more accurate picture of future emissions growth and the responsibility of the City once State measures to reduce GHG emissions have been implemented.

FIGURE 2. BUSINESS-AS-USUAL SCENARIO



Under the adjusted scenario, state regulations will reduce La Cañada Flintridge’s business-as-usual GHG emissions by approximately 31,381 MT of CO₂e in 2020 and 64,565 MT of CO₂e in 2035. Table 1 summarizes the reduction in local GHG emissions that would result from State measures compared to the business-as-usual forecast and the adjusted forecast.²

TABLE 1. GHG EMISSIONS REDUCTIONS SUMMARY

	2020 GHG Emissions (MT of CO ₂ e)	2035 GHG Emissions (MT of CO ₂ e)
Business-as-Usual Forecast	204,431	206,074
Reduction from State Measures	-31,381	-64,565
Adjusted Forecast	173,050	141,509

Targets

La Cañada Flintridge is committed to reducing its GHG emissions by 15 percent below 2007 levels by 2020, consistent with AB 32, and 58 percent below 2007 levels by 2035, working towards the long-term goal of Executive Order S-3-05.

² Executive Order S-3-05 established ambitious GHG reduction targets for the State, which were to reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 202 and to 80 percent below 1990 levels by 2050 (refer to Figure 8 on page 15).

Based on these targets, La Cañada Flintridge’s 2020 targeted GHG emissions would be 248,354 MT of CO₂e and its 2035 targeted GHG emissions would be 122,716 MT of CO₂e. Under the adjusted forecast, La Cañada Flintridge’s GHG emissions are projected to total 173,050 MT of CO₂e in 2020 and 141,509 MT of CO₂e in 2035 (Table 2).

TABLE 2. GHG EMISSIONS, TARGETS, AND REDUCTION NECESSARY TO MEET GOALS

	2020 GHG Emissions (MT of CO ₂ e)	2035 GHG Emissions (MT of CO ₂ e)
2007 Baseline Emissions	292,181	292,181
Adjusted Forecast	173,050	141,509
Targets	248,354	122,716
Remaining Gap Necessary to Meet Targets	-75,304	18,793

La Cañada Flintridge is on track to meet its provisional 2020 target, but would need to reduce its GHG emissions by 18,793 MT of CO₂e by 2035 to meet the provisional 2035 target. This would require implementation of local measures identified in this CAP.

CAP Measures

To achieve the GHG emissions reduction targets, the CAP identifies a comprehensive set climate action measures. These measures are organized into the following focus areas, or categories:



Energy



Water



Transportation



Solid Waste



Urban Greening



Adaptation

The measures were selected based on careful consideration of the emissions reductions needed to achieve the target, the distribution of emissions revealed in the GHG Emissions Inventory, goals and policies identified in General Plan, existing and ongoing efforts and priorities, policies and strategies of neighboring jurisdictions and regional agencies, the potential costs and benefits of each measure, and extensive community and stakeholder outreach.

Implementation and Monitoring

Implementation and monitoring are essential processes to ensure that La Cañada Flintridge reduces its GHG emissions and meets its targets. To facilitate this, each climate action measure is identified along with:

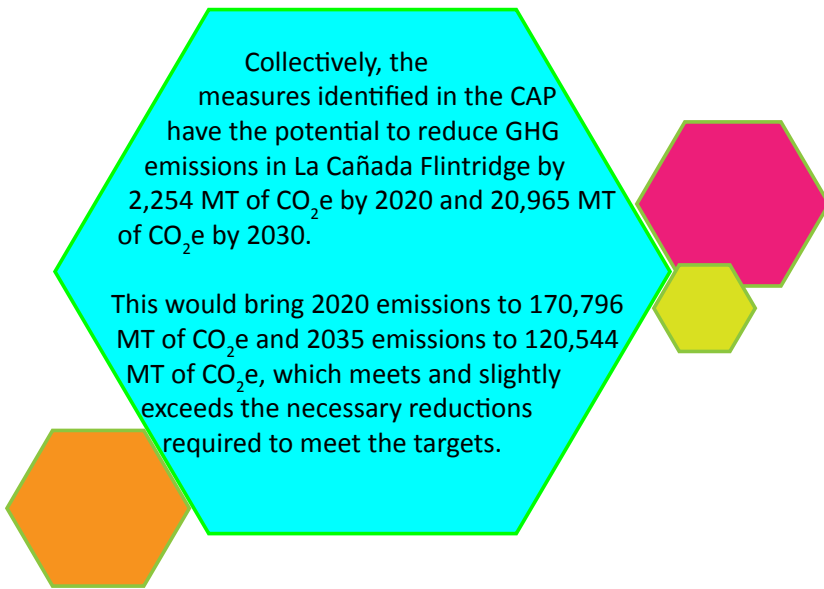
- ▷ Implementation actions
- ▷ Parties responsible for implementation and monitoring
- ▷ Cost and savings estimates
- ▷ The GHG reduction potential (as applicable)
- ▷ Performance indicators to monitor progress
- ▷ An implementation time frame, including near-term (by 2020), mid-term (2021-2030), and long-term (2030-2035)

To ensure that measures are implemented and their progress is monitored upon adoption of the CAP, the City will establish

a CAP Coordinator who will provide essential CAP oversight and coordination of a multi-departmental CAP Implementation Team comprised of key staff in each selected department.

The CAP Implementation Team will meet at least one time per year to establish implementation priorities and assess the status of CAP efforts. The City's CAP Coordinator will be responsible for developing an annual progress report to the City Council that identifies the implementation status of each measure, evaluates achievement of or progress toward performance indicators (where applicable), assesses the effectiveness of various measures and actions included in the CAP, and recommends adjustments to measures or actions, as needed.

An Excel-based implementation and monitoring tool will facilitate this process. To evaluate the performance of the CAP as a whole, the City will update the community and municipal GHG emissions inventories every five years, using the most up-to-date calculation methods, data, and tools.



Collectively, the measures identified in the CAP have the potential to reduce GHG emissions in La Cañada Flintridge by 2,254 MT of CO₂e by 2020 and 20,965 MT of CO₂e by 2030.

This would bring 2020 emissions to 170,796 MT of CO₂e and 2035 emissions to 120,544 MT of CO₂e, which meets and slightly exceeds the necessary reductions required to meet the targets.

The CAP Implementation Team will also work with community members and local stakeholders to develop outreach campaigns and facilitate community meetings, workshops, trainings, and other events to increase community awareness and encourage participation in individual CAP implementation.



DESCANSO GARDENS

Chapter 1. Introduction

La Cañada Flintridge + Climate Change

Community

Roles of Cities in Climate Action Plans

Cities and local governments have important roles and responsibilities in reducing GHG emissions and increasing resiliency to anticipated changes in climate. Because more than 80 percent of Americans live in urban areas, the way cities designate land uses, design buildings, and plan transportation significantly impacts the amount of energy used and levels of GHGs produced.

In recent years, the role of cities has become exceedingly important as it is expected that another one and a half billion people will reside in urban areas in the next 20 years. It is critical, therefore, that cities demonstrate their commitment to reducing GHG emissions in order to decelerate climate change, improve air quality, preserve resources, improve mobility, and ultimately create more livable, sustainable communities.

Recognizing the important role and responsibility that local governments have in reducing GHG emissions and mitigating their potential climate change impacts, the La Cañada Flintridge General

Plan directs the City to prepare this Climate Action Plan (CAP).

La Cañada Flintridge's History of Climate Protection

In 2013, the City of La Cañada Flintridge completed an Energy Action Plan and a comprehensive update to its General Plan. The Energy Action Plan identifies a comprehensive set of energy-efficient targets, goals, policies, and actions to help the community and the City become more-efficient in its energy usage. As this plan exclusively addresses energy efficiency, it does not include measures to address emissions from non-energy sources such as transportation or solid waste. The 2013 General Plan Update also includes a number of goals, policies, and implementation programs that will reduce GHG emissions from both City operations and energy consumption practices in the community as a whole.

The City of La Cañada Flintridge also has two Mayor-appointed committees: the Mayor's Blue Ribbon Committee on Local Water Issues and the Green Task Force.

The Mayor's Blue Ribbon Committee on Local Water Issues was charged with the task of studying local water issues and providing recommendations to the City Council that would encourage residents and businesses in the city to reduce their water consumption. Members of the Committee include representatives of the five local water utilities, City staff, City Council representatives, environmental advocates, and representatives from some of the largest consumers of local water from within the community, including the La Cañada Unified School District and Descanso Gardens.

The Mayor created the City's Green Task Force to address green issues affecting residents of La Cañada Flintridge. Specifically, the charge of the Task Force was to provide options for the City Council to consider which do not require significant regulatory changes, but instead encourage residents and business owners to use green techniques in new construction, utility usage and landscaping. The appointed nine-member Task Force of residents was tasked to:

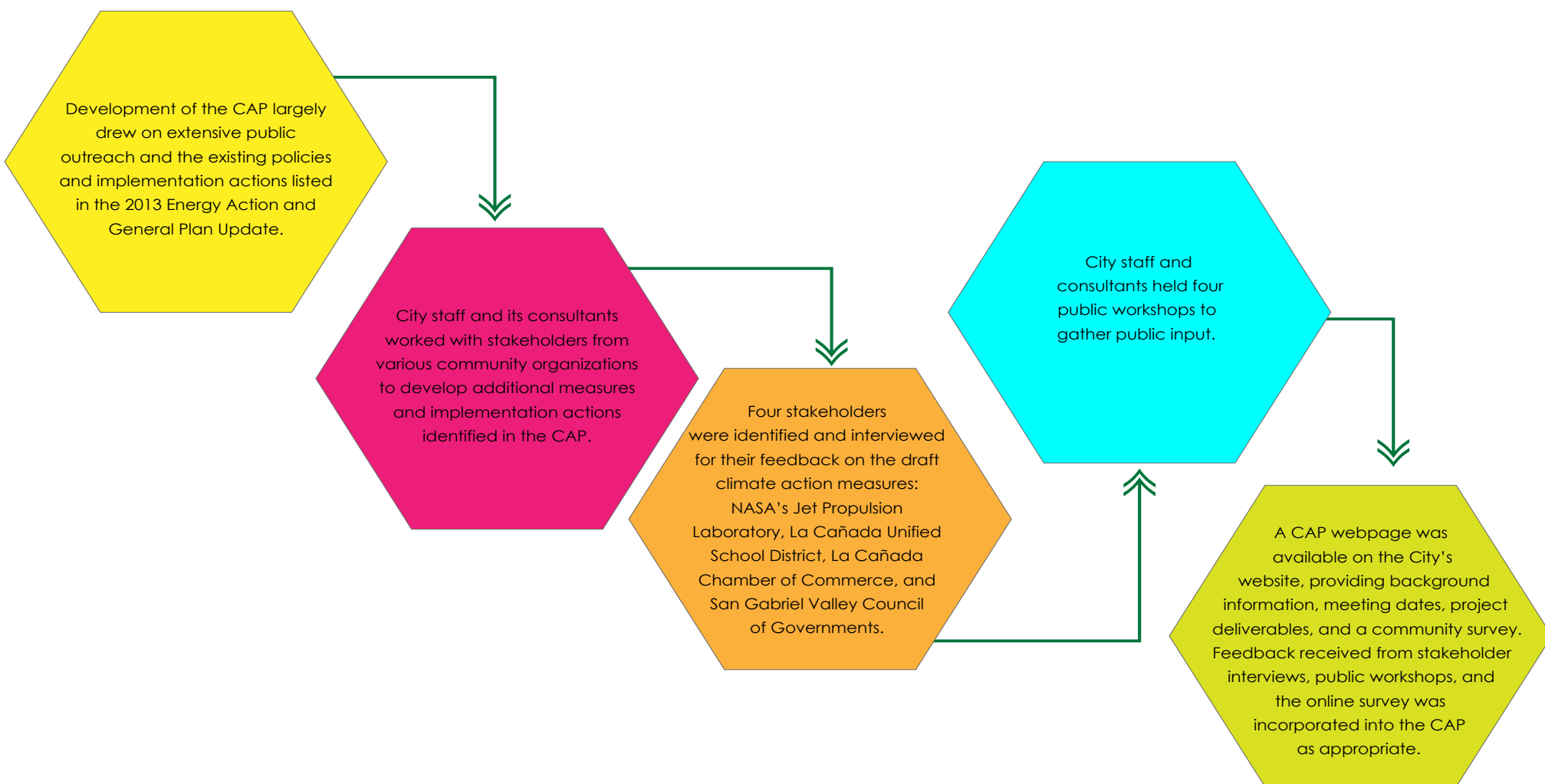
- ▷ Identify current City Green programs
- ▷ Explore additional ways the City can decrease its use of water and energy resources
- ▷ Develop lists of short-term and long-term Green practices as part of an action plan

- ▷ Identify outreach programs and communicate to businesses and residents an educational effort about the benefits of using Green technologies

The most recent climate actions include instituting the State's water efficient landscaping ordinance, establishing an accelerated and low-cost permit system for installation of single-family residential PV solar panels, and working with water purveyors in their efforts to construct local water recycling facilities. The City adopted low-impact development standards in 2015.



FIGURE 3. LA CAÑADA FLINTRIDGE CAP DEVELOPMENT PROCESS





Purpose and Scope of the CAP

This CAP is a long-range plan to reduce GHG emissions from community activities and City government operations within La Cañada Flintridge to support the State's efforts under AB 32, Executive Order B-15-30, and Executive Order S-3-05 and to mitigate climate-related impacts.

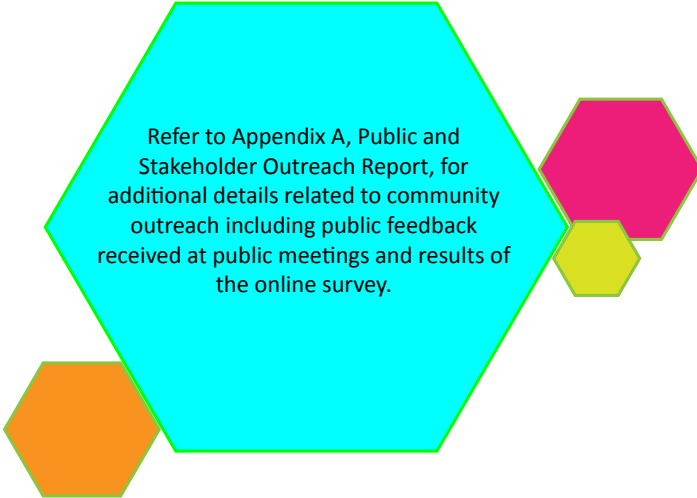
In 2013, La Cañada Flintridge completed a comprehensive update to its General Plan, which includes a number of goals, policies, and implementation programs that will reduce GHG emissions from both City operations and the community as a whole. Goal 4, Objective 4.1, Policies 4.1.1, 4.1.2, and 4.1.3 of the General Plan Air Quality Element specifically require the City to develop and implement this plan for reducing GHG emissions. This CAP fulfills the requirements of these policies.

Specifically, the CAP:

- ▷ Summarizes the results of the City of La Cañada Flintridge 2014 GHG Emissions Inventory Update, which identifies the major sources and quantities of GHG emissions produced in La Cañada Flintridge
- ▷ Forecasts how emissions may change over time, through the years 2020 and 2035
- ▷ Identifies the quantity of GHG emissions that La Cañada Flintridge will need to reduce to meet the City's targets of 15 percent below 2007 levels by

the year 2020 and 58 percent below 2007 levels by 2035, consistent with AB 32, Executive Order S-15-30, and in line with the State's long-term goal identified in Executive Order S-3-05

- ▷ Sets forth City government and community GHG reduction measures, including performance objectives which, if implemented, would collectively achieve the specified emissions reduction targets
- ▷ Identifies proactive strategies that can be implemented to help La Cañada Flintridge prepare for anticipated climate change impacts
- ▷ Sets forth procedures to implement, monitor, and verify the effectiveness of the CAP measures and adapt efforts moving forward



Refer to Appendix A, Public and Stakeholder Outreach Report, for additional details related to community outreach including public feedback received at public meetings and results of the online survey.

In addition to reducing La Cañada Flintridge's GHG emissions consistent with state-wide goals and mitigating the community's contribution to global climate change, implementation of the CAP will help achieve multiple community goals, such as lowering energy costs, reducing air pollution, supporting local economic development, and improving public health and quality of life. The CAP also serves as a qualified GHG reduction strategy and may therefore be utilized to tier and streamline the analysis of GHG emissions of future development in La Cañada Flintridge pursuant to State CEQA Guidelines 15152, 15183 and 15183.5.

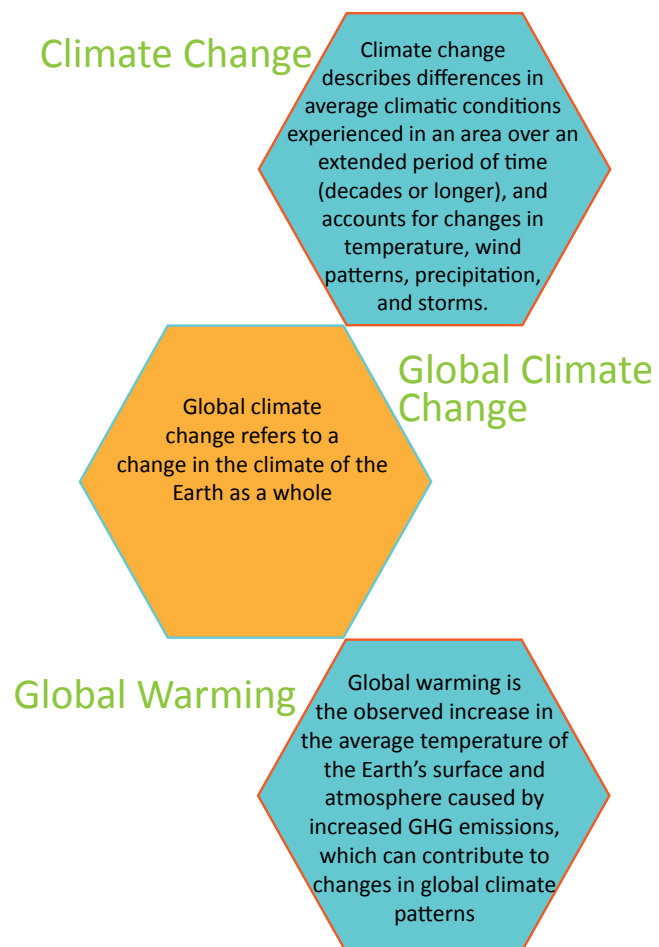
FIGURE 4. CAP PLANNING PROCESS



Scientific Background

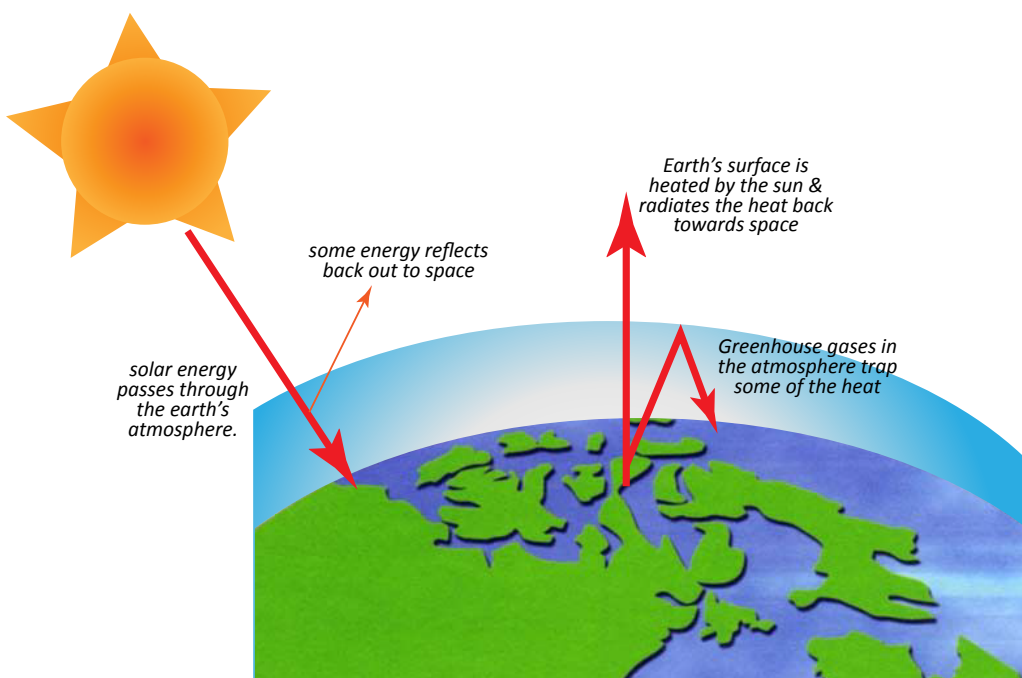
In order to make meaningful and effective decisions regarding GHG reductions, it is important to understand the science under which this CAP has been developed. Refer to Figure 5 for climate change definitions.

FIGURE 5. CLIMATE CHANGE DEFINITIONS



GHGs, such as water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and ozone (O_3), are gases in the Earth's atmosphere that play a critical role in determining the Earth's surface temperature. Specifically, GHGs allow high-frequency solar radiation to enter the Earth's atmosphere, but trap the low frequency, long wave energy, which is radiated back from the Earth to space, resulting in a warming of the atmosphere. The trapping of heat at the Earth's surface is known as the "greenhouse effect," and is illustrated in Figure 6.

FIGURE 6. THE GREENHOUSE EFFECT



Climate Change and Greenhouse Gases

GREENHOUSE GAS SOURCES

GHGs are the result of both human and non-human activities. The consumption of fossil fuels for power generation and transportation, forest fires, decomposition of organic waste, and industrial processes are the primary sources of GHG emissions. Without human intervention, the Earth maintains an approximate inter-annual balance between the emission of GHGs into the atmosphere and its storage in oceans and terrestrial ecosystems. Following the industrial revolution, however, increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.) and other industrial processes have contributed to the rapid increase in atmospheric levels of GHGs. This increase in GHGs correlates with the recent increase in global average temperature.

PRINCIPAL GHGs THAT ENTER THE ATMOSPHERE AS A RESULT OF HUMAN ACTIVITIES

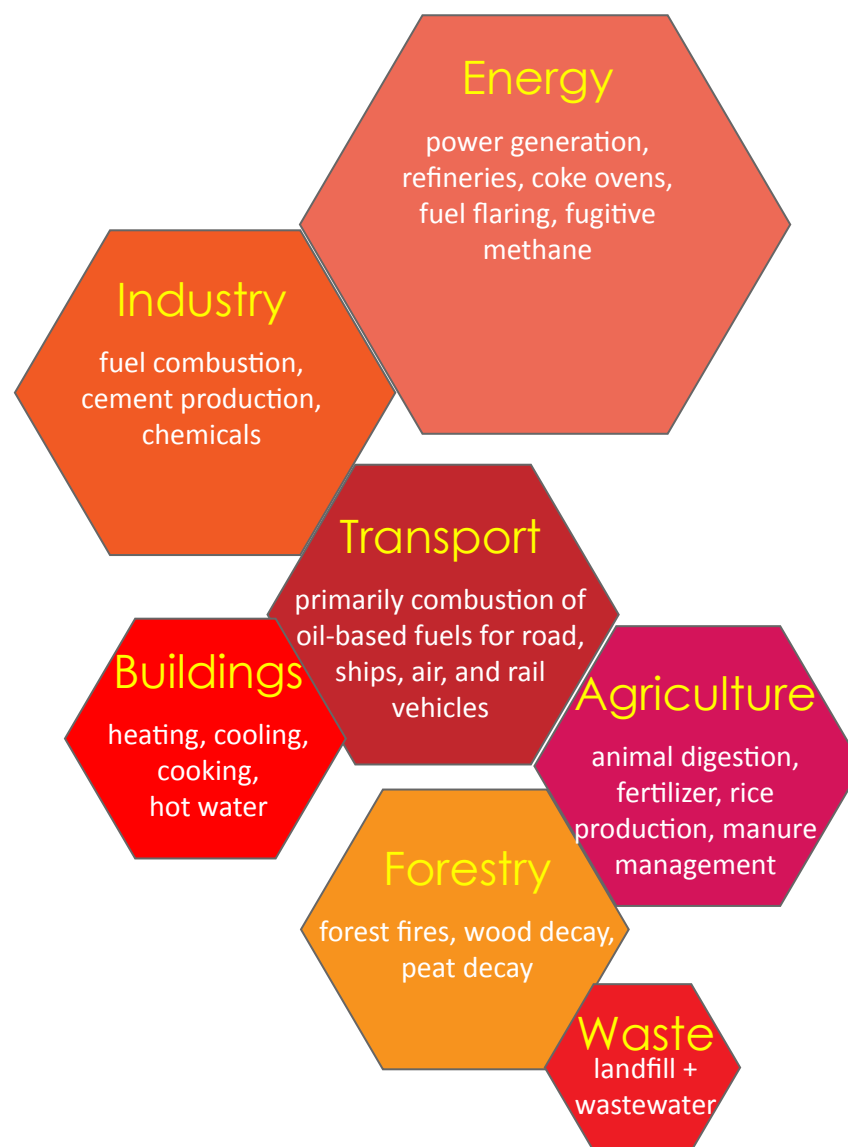
Carbon Dioxide (CO_2) is released into the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., cement production) and deforestation. CO_2 is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.

Methane (CH_4) is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from agricultural practices, such as the raising of livestock, and by the decomposition of organic waste in landfills.

Nitrous oxide (N_2O) is emitted during agricultural and industrial activities, as well as during the burning of fossil fuels and solid waste.

Fluorinated gases (i.e., hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (SF_6)) are synthetic GHGs that are emitted from a variety of industrial processes (e.g., aluminum production) and used in commercial, industrial, and consumer products (e.g., automobile air conditioners and refrigerants). These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as “high intensity” or “high global warming potential” gases. Figure 7 illustrates the key sources of GHGs in proportion.

FIGURE 7. CAUSES OF GREENHOUSE GAS EMISSIONS



Source: (UNEP, EDGAR 2010)

GLOBAL WARMING POTENTIAL

Each GHG differs in its ability to trap heat in the atmosphere, or in its intensity factor. For example, one pound of CH₄ has 21 times more heat capturing potential than one pound of CO₂. To simplify reporting and analysis of GHGs, GHG emissions are typically reported in terms of metric tons of CO₂ equivalent (MT of CO₂e). When dealing with an array of emissions, the gases are converted to their CO₂ equivalents for comparison purposes. Table 3 shows the intensity factors for the six most abundant GHGs.

TABLE 3. GHG INTENSITY FACTORS

GHG	Global Warming Potential ¹ (compared to CO ₂)
Carbon Dioxide	1
Methane	21
Nitrous Oxide	310
Hydrofluorocarbons	140-11,700
Perfluorocarbons	6,500-9,200
Sulfur Hexafluoride	23,900

¹Each of the GHGs listed above differs in its ability to absorb heat in the atmosphere, or in its intensity factor/global warming potential over a 100-year period. The values presented above are based on the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report and United Nations Framework Convention on Climate Change reporting guidelines (IPCC 1996). Although the IPCC Fourth Assessment Report presents different estimates, the current inventory standard relies on the Second Assessment Report's intensity factors to comply with reporting standards and consistency with regional and national inventories (U.S. EPA 2010).

Climate Change Impacts

All cities are vulnerable to climate change and natural disasters. In the last thirty years floods, droughts, cyclones, earthquakes, and other natural disasters have killed an estimated 2.3 million people globally and caused 3.5 trillion dollars in economic damage. Risks to cities include damaged infrastructure such as roads, bridges, powerlines, houses, and buildings in addition to the devastation of agriculture areas that impact food supply. These damages can leave cities devastated for years after a disaster occurs.

In 2009, California adopted a statewide Climate Adaptation Strategy that summarizes climate change impacts and recommends adaptation strategies across seven sectors, including Public Health, Biodiversity and Habitat, Oceans and Coastal Resources, Water, Agriculture, Forestry, and Transportation and Energy. The 2009 Climate Adaptation Strategy was the first of its kind in the use of downscaled climate models to more accurately assess statewide climate impacts as a basis for establishing actions that prepare, prevent, and respond to the anticipated effects of climate change.

Anticipated Effects of Climate Change



Heat Waves

More frequent, longer, extreme heat waves increase energy demand and carry with them public health threats



Air Quality

The increased production of air pollutants, especially ozone, due to higher air temperatures, can exacerbate respiratory and cardiovascular diseases



Wildfires

Increased wildfire frequency, intensity, and duration, threatens public health and plant and animal species survival



Water Supply

Decreased water supply, more frequent drought conditions, and increased demand with implications for the community and environment



Infectious Diseases

Increase risk of contracting infectious diseases from mosquitoes, ticks, and rodents, such as West Nile Virus and Hantavirus



Biodiversity + Habitats

Loss of plant and animal species, and their habitats



Agriculture

Decreased production from crops sensitive to temperature increases and decreased water supply, and increase in various pests



Energy Supply

More frequent power outages due to increased electricity demand

Regulatory Background

FIGURE 8. CALIFORNIA CLIMATE CHANGE LEGISLATION





Chapter 2. Greenhouse Gas Emissions

Greenhouse Gas Emissions Inventory

A GHG emissions inventory identifies the major sources and quantities of GHG emissions produced by City government operations and community driven activities within a jurisdiction's boundaries for a given time period. The city government operations inventory is a subset of the community inventory, meaning that the government emissions are included in the community inventory.

GHG emissions can be defined as either direct (emissions that occur at the end use location such as natural gas combustion for building heating) or indirect (emissions that result from consumption at the end use location, but occur at another location such as emissions resulting from the generation of electricity). This report addresses both types of emissions.

GHG emissions inventories include all emissions occurring within a jurisdiction's geo-political control (i.e., sources of emissions in the city limits over which the City has significant influence or jurisdictional authority). The emissions included may occur outside of the geographical boundary of the city as long as they are related to activities in the city.

Estimating GHG emissions enables local governments to do the following:

- ▷ Establish an emissions baseline
- ▷ Track emissions trends
- ▷ Identify the greatest sources of GHG emissions
- ▷ Set targets for future reductions
- ▷ Create an informed mitigation strategy

By quantifying the GHG emissions from government facilities and operations and the community as a whole, the inventory provides an understanding of where the highest percentages of emissions in La Cañada Flintridge originate and where the greatest opportunities for emissions reductions exist. It also provides City decision-makers and the community with information to inform policy decisions and provides a baseline against which future progress can be measured.

2007 Baseline

In March 2010, the City completed its first GHG inventory, which included an accounting of GHG emissions occurring in 2007 to use as a baseline and an estimate of GHG emissions occurring in 1990 to remain consistent with the reference point prescribed by Assembly Bill 32. In 2007, communi-

ty-wide GHG emissions totaled 292,181 MT of CO₂e and government GHG emissions totaled 190 MT of CO₂e.

2010 Greenhouse Gas Emissions

In 2013, the City of La Cañada Flintridge adopted an Energy Action Plan, which identified the City's long-term vision for and commitment to achieving energy efficiency in government operations and the community at large. This plan included an update to the 2007 government inventory as well as a 2010 inventory of the government and community-wide energy sectors. Government GHG emissions totaled 200 MT of CO₂e and GHG emissions resulting from community-wide energy use totaled 112,380 MT of CO₂e.

Refer to Appendix B, City of La Cañada Flintridge 2014 Greenhouse Gas Emissions Inventory, for complete text of the 2014 GHG Emissions Inventory.

2014 Greenhouse Gas Emissions

The 2014 GHG inventory provides an update to the 1990, 2007, and 2010 baseline inventories to provide a more accurate estimate of existing conditions in the city and demonstrate the progress the community has made since the baseline years. Figure 9 shows the various sources of emissions that are included in the community-wide and government inventories.



In 2014, activities and operations taking place within La Cañada Flintridge's jurisdictional boundaries generated approximately 203,775 MT of CO₂e. This total includes emissions from onsite combustion of natural gas in residential and commercial buildings,¹ combustion of gasoline and diesel in vehicles traveling on local roads,²

emissions related to the generation of the electricity consumed in La Cañada Flintridge, emissions from the collection and treatment of wastewater generated in the

city, electricity used for water delivery to the city, and emissions resulting from the decomposition of waste generated by the La Cañada Flintridge community.

¹ La Cañada Flintridge does not have industrial land uses or large stationary sources.
² On-road transportation emissions include those associated with VMT from trips generated by land uses in the city. As such, these trips have an origin and/or destination in the city, and pass-through trips are not included in this total. Refer to Appendix B, City of La Cañada Flintridge 2014 Greenhouse Gas Emissions Inventory, for additional details.

FIGURE 9. INVENTORY TYPES AND WHAT THEY MEASURE



As shown in Figure 10, mobile sources were the largest source of emissions, generating approximately 117,592 MT of CO₂e, or 58 percent of total 2014 emissions. Electricity and natural gas consumption in the building energy sector was the second

FIGURE 10. 2014 COMMUNITY EMISSIONS SUMMARY BY SECTOR

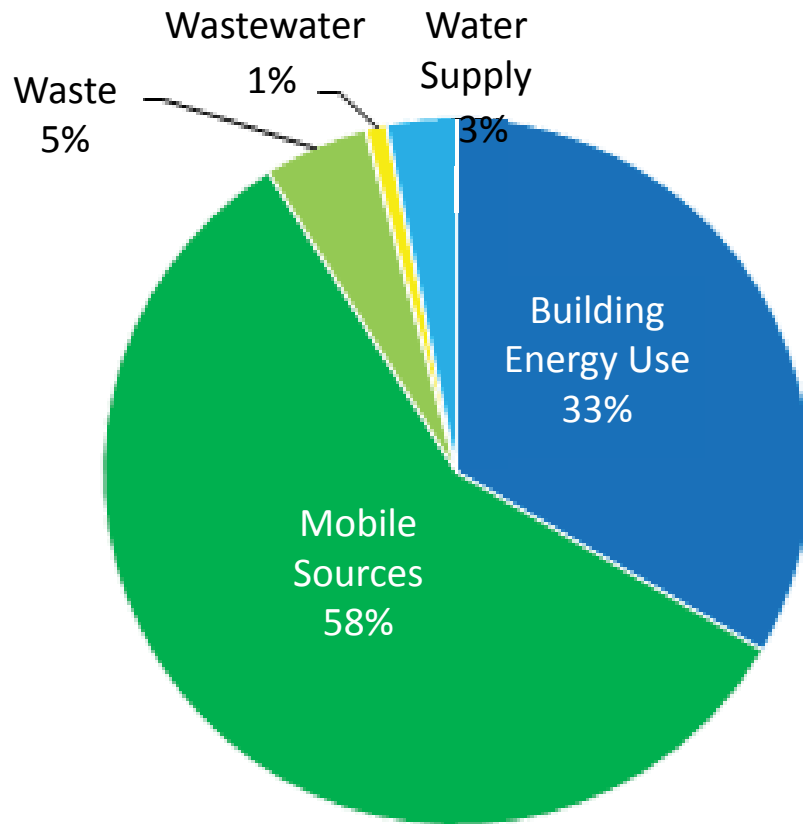
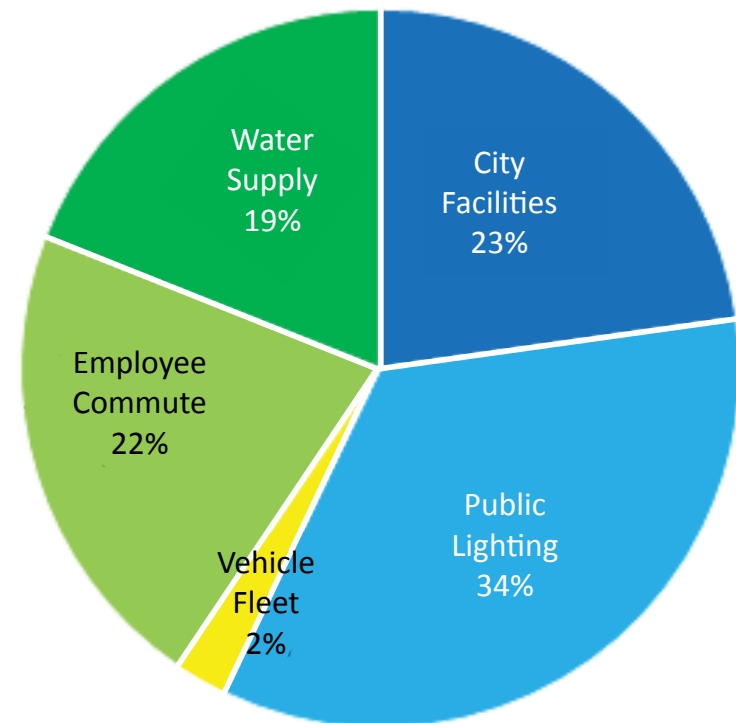


FIGURE 11. 2014 GOVERNMENT EMISSIONS SUMMARY BY SECTOR



largest source of 2014 emissions, generating 67,997 MT of CO₂e, or 33 percent of the total. The remaining nine percent of emissions were the result of waste disposal, water consumption and wastewater treatment.

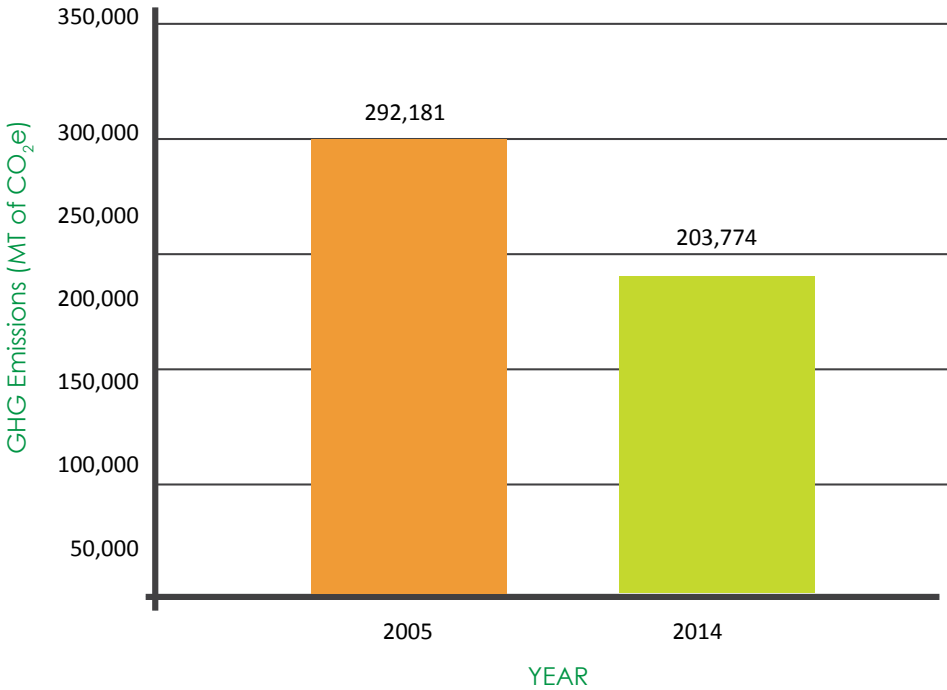
In 2014, the City government GHG emissions totaled 238 MT of CO₂e. As shown in Figure 11, emissions from public lighting were the largest source of the City’s emissions (82 MT of CO₂e, or 34 percent). The second largest source of emissions was electricity and natural gas consumed in the City’s buildings and facilities (54 MT of CO₂e, or 23 percent). The remaining 43 percent of government emissions resulted from the City’s vehicle fleet, water supply and employee commute travel. Therefore, 2014 community emissions have decreased by 30 percent between 2007 and 2014 (Figure 12).

Inventory Comparison

In 2007, community activities generated around 292,181 MT of CO₂e, while 190 MT of CO₂e were attributed to government operations. In 2014, community activities generated about 203,775 MT of CO₂e, while 238 MT of CO₂e were attributed to government operations. Therefore, 2014 community emissions decreased by 30 per-

cent between 2007 and 2014. This community-wide decrease is the result of decreases in emissions associated with residential and commercial energy use, on-road and off-road mobile sources, and wastewater treatment. Emissions associated with waste and water supply increased between 2007 and 2014, but were offset by the larger reductions in emissions associated with other sectors. Government emissions increased by 25 percent between 2007 and 2014. This is largely the result of the addition to this report of emissions from government water usage, which were not included in the 2007 inventory.

FIGURE 12. 2014 COMMUNITY GHG EMISSIONS TREND (2007 & 2014)



Per Capita Emissions

Per capita emissions are a measure of GHG emissions per person in a given jurisdiction and are calculated by dividing total GHG emissions in a given year by the jurisdiction's population in that same year. Per capita emissions allow for a more consistent comparison across jurisdictions as the emissions are presented on a per person basis rather than an aggregate total. As shown in Figure 13, La Cañada Flintridge's per capita emissions are higher than those of several other jurisdictions in California. In 2007, La Cañada Flintridge's per capita GHG emissions were 14.3 MT of CO₂e per person and in 2014 the city's per capita emissions dropped to 9.4 GHG MT of CO₂e per person. Despite this drop in 2014, the city's per capita emissions remain high relative to several other California jurisdictions.

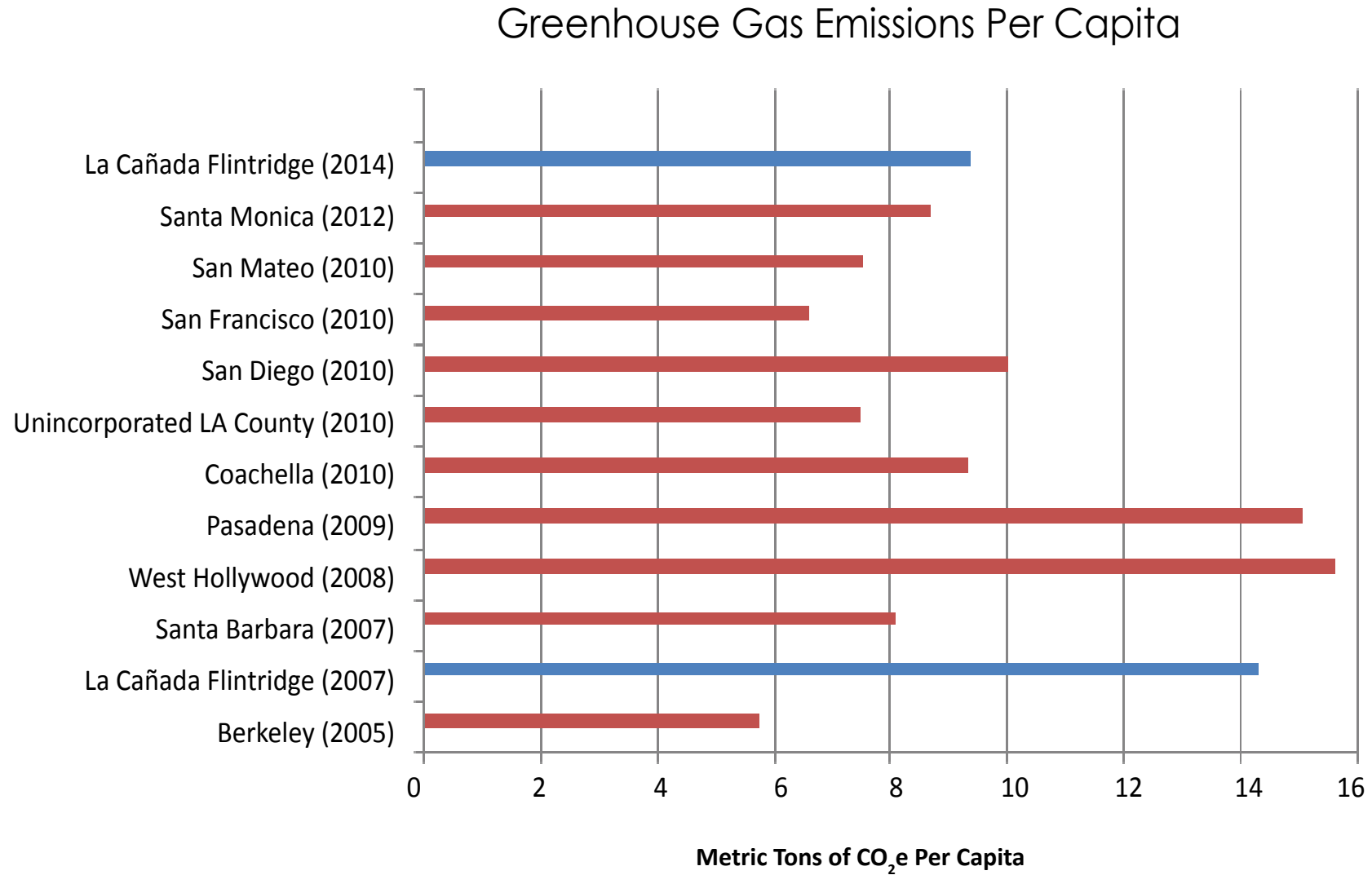


TRAFFIC JAM IN LOS ANGELES



LCF SHUTTLE

FIGURE 13. CALIFORNIA JURISDICTIONS GREENHOUSE GAS EMISSIONS PER CAPITA COMPARISON





2020 and 2035 Forecasts

Forecasts allow cities to understand how GHG emissions will change in the future and provide a way to estimate local GHG emissions relative to long-term state goals. GHG emissions forecasts are based on projected growth trends in population, households, employment and VMT, as well as regulatory requirements and changing technologies. Table 4 shows the growth forecast used to determine La Cañada Flintridge's emissions in 2020 and 2035.

TABLE 4. LA CAÑADA FLINTRIDGE GROWTH PROJECTIONS

Growth Indicator	2014	2020	2035	Sector Applied To
Population	21,760	21,920	22,318	Solid Waste, Water, Wastewater
Households	7,535	7,610	7,798	Residential Energy
Employment	9,224	9,494	10,170	Commercial Energy
Daily VMT	608,020	605,413	598,897	Transportation

Source: Iteris, 2015 (based on SCAG RTP model)

Business-as-Usual Forecast

The City of La Cañada Flintridge “business-as-usual” forecast provides an estimate of how GHG emissions would change in the years 2020 and 2035 if 2014 consumption trends and efficiencies continue as they did in 2014 and absent any new regulations that would reduce local emissions.³ As shown in Figure 14, under the business-as-usual forecast scenario, La Cañada Flintridge's GHG emissions are projected to grow approximately 0.3 percent above 2014 GHG emissions levels by the year 2020 (from 203,775 MT of CO₂e to 204,431 MT of CO₂e) and approximately 0.8 percent above 2014 GHG emissions levels by the year 2035 (from 203,775 MT of CO₂e to 206,074 MT of CO₂e).

³ As noted above, consistent with direction from the U.S. Community Protocol (2012), emissions resulting from high global warming potential GHGs were removed from the 2007 baseline and 2020 forecast. Therefore, the 2007 baseline total and the 2020 forecast totals presented herein do not match those reported in the City of La Cañada Flintridge's GHG Emissions Inventory (2010).

FIGURE 14. BUSINESS-AS-USUAL FORECAST

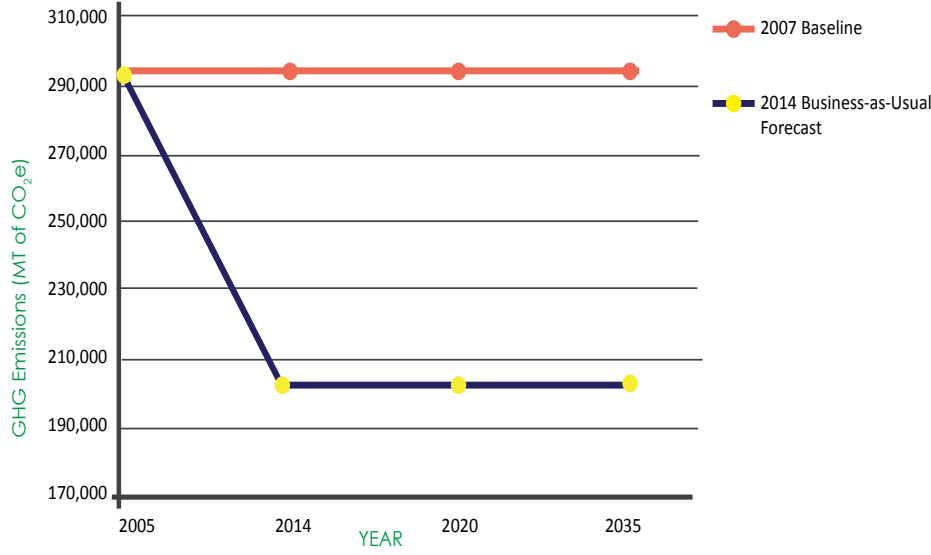


TABLE 5. SUMMARY OF GHG EMISSIONS REDUCTIONS FROM STATE REGULATIONS IN 2020 AND 2035

State Measure	2020 Reduction (MT of CO ₂ e)	2035 Reduction (MT of CO ₂ e)
Pavley I Clean Car Standards (AB 1493) and Advanced Clean Car Standards	-23,731	-47,704
Title 24 (2016)	-47	-286
Renewable Portfolio Standard	-7,110	-16,073
Construction & Demolition Waste Diversion Ordinance	-493	-502
Total Reduction from State Regulations	-31,381	-64,565

Adjusted Forecast

Since 2014, a number of federal and state regulations have been enacted that would reduce La Cañada Flintridge’s GHG emissions in 2020 and 2035. The impact of these regulations was quantified and incorporated into an “adjusted forecast” to provide a more accurate picture of future emissions and the additional reductions needed to meet reduction targets once state regulations to reduce GHG emissions have been implemented. Table 5 summarizes the local emissions reductions that will result from and be quantified for each state regulation intended to reduce local emissions by 2020 and 2035. Combined, these state regulations will reduce La Cañada Flintridge’s business-as-usual GHG emissions by approximately 31,381 MT of CO₂e in 2020 and 64,565 MT of CO₂e in 2035 (Table 6).

State Regulations in 2020 and 2035

PAVLEY I CLEAN CAR STANDARDS (AB 1493) AND ADVANCED CLEAN CARS

Pavley I Standard requires vehicle manufacturers to reduce GHG emissions from new passenger vehicles and light trucks from 2009 through 2016. CARB anticipates that the Pavley I Standard will reduce GHG emissions from new California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, while simultaneously improving fuel efficiency and reducing the cost to motorists.



The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles, Zero Emissions Vehicles, and Clean Fuels Outlet programs by combining the control of smog, soot causing pollutants, and GHG emissions into a single set of requirements for model years 2017 to 2025. The new standards will reduce GHG emissions by 34 percent in 2025.

RENEWABLE PORTFOLIO STANDARD

The State of California Renewable Portfolio Standard requires investor-owned utilities, electric service providers, and community choice aggregators to increase the portion of energy that comes from renewable sources to 20 percent by 2010, 33 percent by 2020, and 50 percent by 2030.

CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 6

California's Energy Efficiency Standards for Residential and Nonresidential Buildings results in reduced fossil fuel consumption and associated GHG emissions related to building heating, cooling, lighting, and water heating. The California Energy Commission estimates that the 2016 standards will reduce consumption by 28 percent for residential buildings and five percent for commercial buildings, relative to the previous standards.

CONSTRUCTION AND DEMOLITION WASTE DIVERSION ORDINANCE

CALGreen, the State's Green Building Standards Code, requires jurisdictions to divert a minimum of 50 percent of their non-hazardous construction and demolition waste from landfills.

TABLE 6. ADJUSTED FORECAST

	2020 GHG Emissions (MT of CO ₂ e)	2035 GHG Emissions (MT of CO ₂ e)
Business-as-Usual Forecast	204,431	206,074
Reduction from State Measures	-31,381	-64,565
<i>Adjusted Forecast</i>	<i>173,050</i>	<i>141,509</i>

Greenhouse Gas Reduction Targets

The City of La Cañada Flintridge has established the following GHG reduction targets, which are consistent with AB 32 and Executive Order B-30-15, and in line with the GHG reduction trajectory necessary to achieve the 2050 long-term, 80 percent reduction goal identified in Executive Order S-3-05.

- Reduce GHG emissions 15 percent below 2007 levels by 2020 (the AB 32 target year)
- Reduce GHG emissions 58 percent below 2007 levels by 2035 (general plan horizon year)

As shown in Table 7, to meet the targets identified above, La Cañada Flintridge’s emissions could not exceed 248,354 MT of CO₂e in 2020 and 122,716 MT of CO₂e in 2035.

Figure 15 shows the reductions that will be needed to meet the GHG reduction targets. These reductions will come from existing and newly identified GHG reduction measures that are included in Chapter 3 of this CAP. As shown in Figure 15 and Table 8, La Cañada Flintridge would exceed its provisional 2020 target by 75,304 MT of CO₂e, but to meet the provisional 2035 target would need to reduce its GHG emissions by 18,793 MT of CO₂e.



TABLE 7. GHG EMISSIONS TARGET AND NECESSARY REDUCTIONS

Target Year	Reduction Goal
2007 Baseline Emissions Level	292,181 MT of CO ₂ e
2020 Target (15% below 2007 levels)	248,354 MT of CO ₂ e
2035 Target (58% below 2007 levels)	122,716 MT of CO ₂ e

FIGURE 15. SUMMARY OF LA CAÑADA FLINTRIDGE'S GHG EMISSIONS AND REDUCTION TARGETS

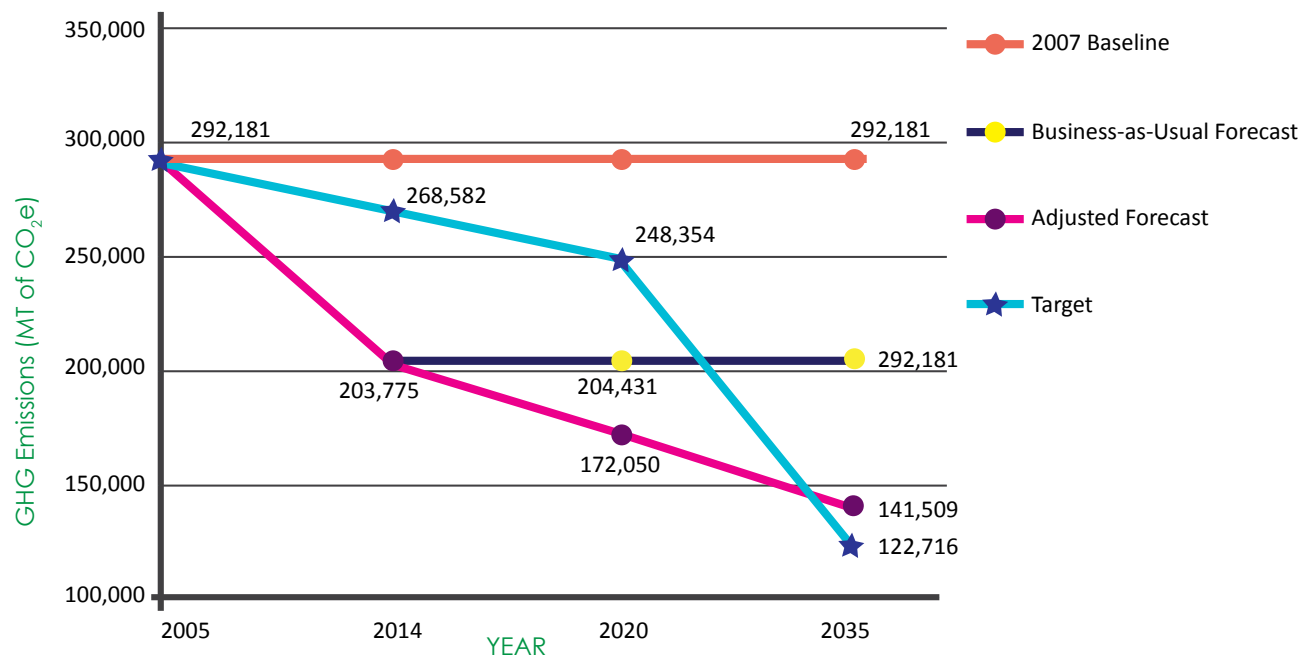


TABLE 8. GHG EMISSIONS, TARGET, AND REDUCTIONS NECESSARY TO MEET TARGET

	2020 GHG Emissions (MT of CO ₂ e)	2035 GHG Emissions (MT of CO ₂ e)
2007 Baseline Emissions	292,181	292,181
Adjusted Forecast	173,050	141,509
Targets	248,354	122,716
Remaining Gap Necessary to Meet Targets	-75,304	18,793



MULTI-MODAL TRANSPORTATION



Chapter 3. Climate Action Measures

Climate action measures represent ways to reduce GHG emissions or adapt to the anticipated effects of climate change. This chapter identifies the measures the City will implement to achieve its GHG emissions reduction targets of 15 percent below 2007 levels by 2020 and 58 percent below 2005 levels by 2035.

Measure Development

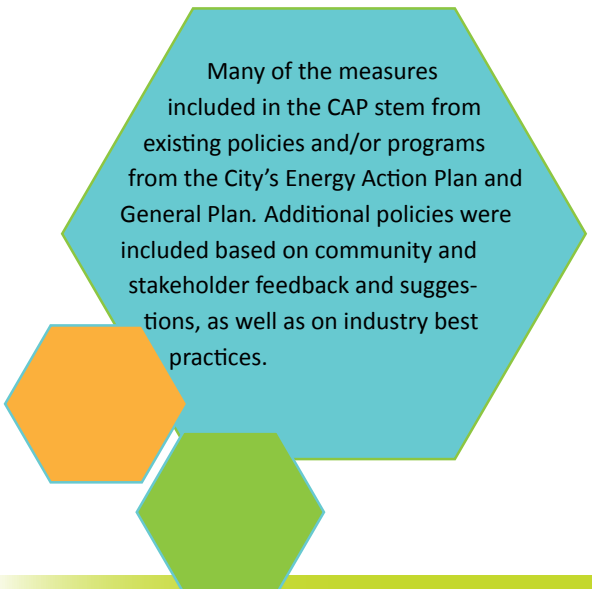
To identify a set of climate action measures that would be most effective in the community, the City assessed its existing sustainability practices, explored the most recent technology and practices, and solicited feedback from local stakeholders and community members.

Measure development included the following:

- ▷ Recognizing existing local and regional policies, programs, and actions from these La Cañada Flintridge policy documents:
 - ✧ Energy Action Plan
 - ✧ General Plan
 - ✧ Municipal Code
- ▷ Assessing any gaps
- ▷ Examining best practices from similar communities
- ▷ Identifying additional opportunities

- ▷ Meeting with stakeholder groups
- ▷ Soliciting community input

The final climate action measures presented in this chapter were ultimately based on careful consideration of the reductions needed to achieve the targets, the sources and distribution of emissions revealed in the GHG emissions inventory, existing priorities and resources, and the potential costs and benefits of each measure.



Many of the measures included in the CAP stem from existing policies and/or programs from the City's Energy Action Plan and General Plan. Additional policies were included based on community and stakeholder feedback and suggestions, as well as on industry best practices.

STAKEHOLDER GROUPS

NASA's Jet Propulsion Laboratory
La Cañada Flintridge School District
La Cañada Flintridge Chamber of Commerce
San Gabriel Valley Council of Governments

Measure Composition

The climate action measures are organized into six focus areas.



Energy



Water



Transportation



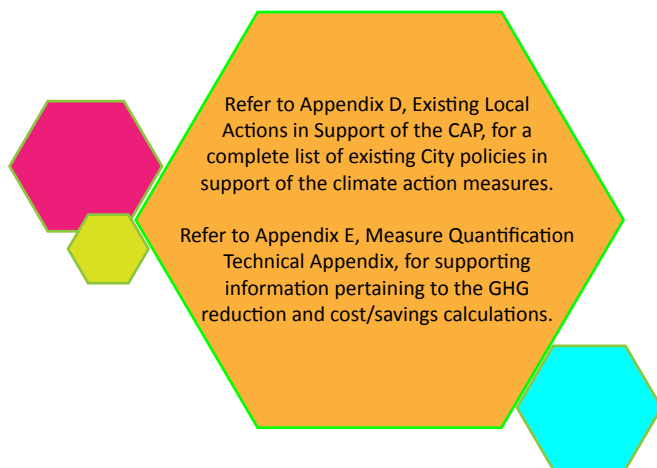
Solid Waste



Urban Greening



Adaptation



Each climate action measure is organized under one of the six focus areas and is presented with the following information:

Performance Objective

The outcome necessary to achieve the measure's GHG emissions reduction potential.

Implementation Actions

The specific steps the City will take to achieve the performance objective. Implementation actions for each measure are either developed from existing City policies, written in black, or listed as new actions and italicized, in **green type**.

GHG Reduction Potential

The estimated reduction in GHG emissions anticipated at implementation, measured in MT of CO₂e per year.

Costs and Savings

For each measure, potential costs and savings to the City or the community are categorized as none, very low, low, medium, or high. Table 9 summarizes these category definitions. Municipal costs and savings are presented as aggregated totals over the life of the plan. Community cost/savings are presented as annual costs per household/business. Costs indicate for the expense that would occur beyond conducting business-as-usual (e.g., costs associated with General Plan implementation are considered business-as-usual).

TABLE 9. COST SAVINGS KEY

	Municipal Cost/Savings	Community Cost/Savings	Symbol (red=cost, green=savings)
None	\$0	\$0	—
Very Low	\$1-\$10,000	\$1-\$1,000	\$
Low	\$10,001-\$50,000	\$1,001-\$5,000	\$\$
Medium	\$50,001-\$100,000	\$5,001-\$10,000	\$\$\$
High	\$100,001+	\$10,001+	\$\$\$\$

For each measure, look for the symbols that indicate cost savings (\$ or \$) and the individual symbols that indicate a co-benefit is included.

Co-Benefits

In addition to reducing GHG emission, each climate action measure has the potential to provide additional important benefits to the community. These benefits have the following attributes:

▷ Reduce costs



▷ Improve public health



▷ Improve air quality



▷ Improve water quality



▷ Improve equity



▷ Reduce water consumption



▷ Reduce energy consumption



▷ Increase property values



▷ Reduce noise



▷ Adaptation



Energy



Energy use results in GHG emissions associated with the combustion of fossil fuels and natural gas which is used to heat, cool, and provide power to residential and commercial buildings. Energy use in residential and commercial buildings was responsible for approximately 33 percent of La Cañada Flintridge's GHG emissions in 2014.

Residential land uses make up the majority of the city. These include single-family (low-density) and multi-family homes (medium- and high-density), the majority (96 percent) of which are low-density (U.S. Census Bureau 2010). The higher density homes are mostly located in the downtown area of La Cañada Flintridge to either side of Foothill Boulevard.

More than 79 percent of the housing units were built prior to 1978 when the California Energy Efficiency Standards were created. Because the majority of housing stock was developed prior to Title 24 energy efficiency standards, significant reductions in residential energy usage are available through residential efficiency measures promoted through community outreach/educational programs and existing local and regional incentives.

Commercial land uses are primarily located along Foothill Boulevard between Georgian Road and Alta Canyada

Road. Effective commercial emission reductions strategies would be similar to those developed for residential buildings.

GHG emissions reductions related to energy use can be achieved by changes to both energy demand (e.g., improving energy efficiency and reducing consumption) and energy supply (e.g., switching from grid electricity to solar power). To reduce energy consumption and the emissions associated with the supply of energy, La Cañada Flintridge adopted an Energy Action Plan on March 4, 2013. The Energy Action Plan focused on policies involving energy efficiency in existing buildings and construction of high performance new buildings. Many of the energy measures identified herein build-off of policies identified in the Energy Action Plan.

Reducing energy use and associated emissions benefits La Cañada Flintridge residents and business owners by reducing electricity costs, improving public health and air quality, and increasing energy independence.



LANTERMAN HOUSE

E-1. City of La Cañada Flintridge Energy Action Plan Community Implementation



- ▷ Expand the City's commitment to reducing energy use and associated GHG emissions to the year 2035.
- ▷ Partner with JPL and La Cañada Unified School District to expand existing energy conservation programs and establish plans to improve energy efficiency of their facilities.

Implementation Actions

- ▷ Continue to work toward the goals identified in the Energy Action Plan by implementing its community energy efficiency actions including residential and commercial energy audits (Policies 1.2, 2.2), energy efficient upgrades in existing development (Policies 1.1, 1.3, 1.4, 2.1, 2.3, 2.4), and energy-efficient new development (Policies 2.5, 3.2, 4.1, 5.1, 5.2).
- ▷ Complete an assessment of the progress made on strategies identified in the Energy Action Plan and establish a prioritized list of strategies that require additional actions.
- ▷ Meet annually with relevant City departments and community stakeholders to assess progress and establish near-term action items to be implemented in the coming year.

Performance Objective

- ▷ Achieve 15% reduction in residential and commercial energy use by 2035

✧ **GHG Reduction Potential (MT of CO₂e)**
10,278

Estimated Cost + Savings

- | | |
|----------------------|-----------|
| 1. Municipal Cost | \$ |
| 2. Municipal Savings | -- |
| 3. Community Cost | \$ - \$\$ |
| 4. Community Savings | \$ - \$\$ |

Co-Benefits



E-2 Promote residential and commercial PV installation to reduce energy usage and improve reliability of service without conflicting with the urban forest.

Implementation Actions

- Complete an assessment to identify public and private facilities with roof-top availability for solar installation.
- Where feasible, provide financial incentives for renewable energy projects (e.g., reduced fees), creative financing (e.g., subsidized or other low-interest loans and/or the option to pay for system installation through long-term assessments on individual property tax bills), as well as other support for community members or developers seeking funding for such projects (CNE Policy 1.3.12).
- Promote the California Solar Initiative's solar water heating incentive program to subsidize the purchase of solar water heaters and replace/ recycle old water heaters in homes and commercial buildings.
- Continue to provide expedited permitting for installation of residential PV solar panels and solar water heaters (CNE Policy 1.3.12).
- Update building standards to encourage all new construction to incorporate renewable energy and/or be solar ready (CNE Policy 1.3.10).

- Encourage solar shade structures as a condition of approval for all new parking lots where appropriate and identify existing public and private parking structures to install solar shade structures.

Performance Objective

- Achieve installation of 250 KWs of solar installation and 200 solar water heaters by 2035

✧ **GHG Reduction Potential (MT of CO₂e) 249**

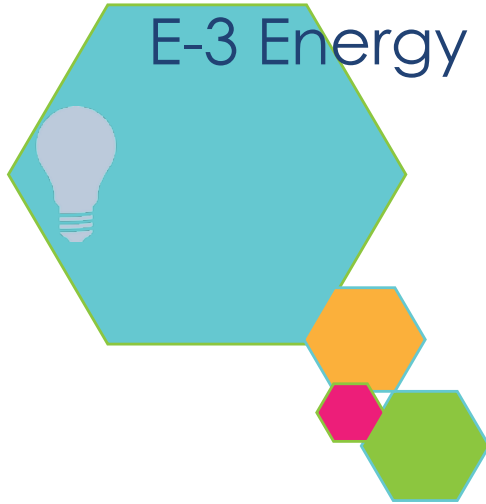
Estimated Cost + Savings

- | | |
|----------------------|----------|
| 1. Municipal Cost | \$\$\$\$ |
| 2. Municipal Savings | \$ |
| 3. Community Cost | Varies |
| 4. Community Savings | Varies |

Co-Benefits



E-3 Energy Action Plan Municipal Implementation



Implementation Actions

- Continue to work towards the goals identified in the Energy Action Plan by implementing its municipal energy efficiency actions.
- Complete an assessment of the progress made on the near-term City-government energy efficiency projects identified in Table 14 of the *Energy Action Plan*.
- Complete an assessment of the City's progress towards achieving Silver Level Status in Southern California Edison's Energy Leadership Partnership program.
- Establish a prioritized list of municipal projects and strategies that require additional actions, such as monitoring energy use in City facilities (AQ Policy 3.4.1), training staff on energy efficiency issues (AQ Policy 5.1.3), and developing a Capital Reinvestment Fund to provide capital for future energy efficiency improvements from ongoing energy efficiency savings (AQ Policy 5.1.4).

Performance Objective

- Achieve 20% reduction in municipal energy use by 2035
- ✧ **GHG Reduction Potential (MT of CO₂e) 27**

Estimated Cost + Savings

1. Municipal Cost **\$\$**
2. Municipal Savings **\$**
3. Community Cost **---**
4. Community Savings **---**

Co-Benefits





LA CAÑADA FLINTRIDGE CITY HALL

Water



Water is a carbon-intensive resource that requires significant amounts of energy to pump, treat, distribute, heat for use, and treat again as wastewater. Water and wastewater were responsible for approximately four percent of La Cañada Flintridge's GHG emissions in 2014.

La Cañada Flintridge imports approximately 86 percent of its water from outside the city, from the California Water Project, and the remaining 14 percent of water is supplied locally.

GHG emissions reductions related to water use can be achieved by cutting overall water consumption. A reduction in demand is critical to conserve a limited resource and to reduce the energy use and GHG emissions associated with supply and management.

Climate action measures promote water conservation and efficiency for both indoor and outdoor uses.

Reducing water use and associated emissions benefits La Cañada Flintridge residents and business owners by reducing costs associated with water usage and by improving the community's adaptive capacity in the event of a drought.





LA CAÑADA FLINTRIDGE

W-1 Implement the City of La Cañada-Flintridge *Energy Action Plan* community water measures and establish a Water Conservation Plan (CNE Policy 1.1.2)

Implementation Actions

- ▷ Continue to work towards the water conservation goals identified in the Energy Action Plan by implementing its community water conservation actions including implementing recommendations of the Blue Ribbon Committee on Local Water Issues (Policy 6.1), encouraging use of water-conserving landscaping practices (Policy 6.2), and achieving minimum levels of water efficiency in new development (Policy 6.3).
- ▷ Complete an assessment of the progress made on water conservation strategies identified in the Energy Action Plan and establish a prioritized list of strategies that require additional actions.
- ▷ Establish a Water Conservation Plan (CNE Policy 1.1.2).
- ▷ Meet annually with the Blue Ribbon Committee on Local Water Issues to assess progress and establish near term action items to be implemented in the coming year.
- ▷ Expand the City's commitment to reducing water use and associated GHG emissions to the year 2035.
- ▷ Encourage local water purveyors to develop a tiered rate structure for water use based on usage and the actual cost of water delivery (CNE Policy 1.1.2).
- ▷ Work with water providers to implement or enhance programs to educate the community about the importance of water conservation and methods to reduce water use (CNE Policy 1.1.4).
- ▷ Partner with La Cañada Unified School District to expand existing water conservation programs in all schools and launch a competition among campuses to reward schools demonstrating leadership in water conservation efforts.

Performance Objective

- ▷ Achieve 50% reduction in water use by 2035
- ✧ **GHG Reduction Potential (MT of CO₂e) 3,253**

Estimated Cost + Savings

1. Municipal Cost \$\$
2. Municipal Savings \$
3. Community Cost Varies
4. Community Savings \$



"EVERY DROP COUNTS." PHOTO COURTESY BINDRA PHOTOGRAPH

W-2 Implement water efficient retrofits and upgrades

Performance Objective

- ▷ Achieve 50% community participation in water efficient retrofits and upgrades by 2035
- ✧ **GHG Reduction Potential (MT of CO₂e) 1,856**

Estimated Cost + Savings

1. Municipal Cost **\$\$**
2. Municipal Savings **---**
3. Community Cost **Varies**
4. Community Savings **\$**

Implementation Actions

- ▷ Work with the City's water purveyors, community organizations, and local colleges to provide no-cost and low-cost water efficiency audits and technical assistance for retrofits and upgrades.
- ▷ Encourage water efficiency audits and retrofits at point of sale for commercial and residential properties.
- ▷ Work with Southern California Edison and the City's water purveyors to provide rebates and incentives for installation of water-efficient improvements such as replacement/retrofit programs, landscape irrigation control systems, and turf replacement.

Co-Benefits



W-3 Require water-efficient new development

Performance Objective

- Achieve 100% of new development implementing water efficient measures by 2035
 - ✧ **GHG Reduction Potential (MT of CO₂e) 66**

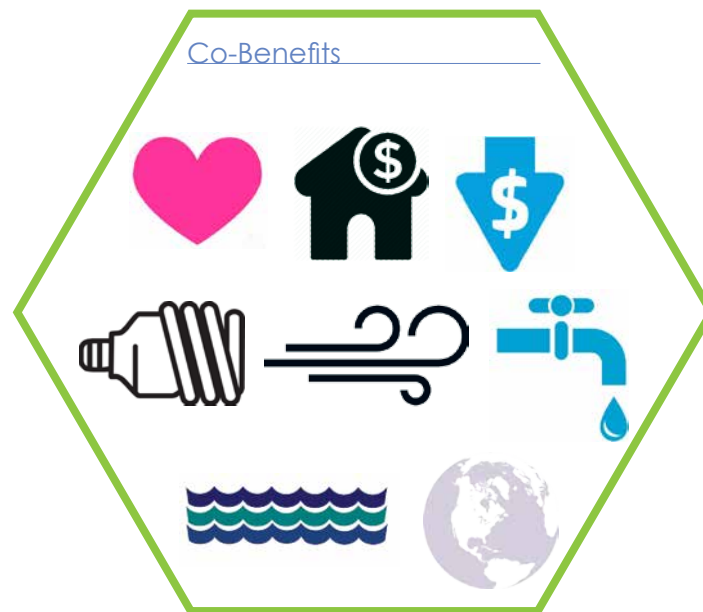
Estimated Cost + Savings

- | | |
|----------------------|------|
| 1. Municipal Cost | \$\$ |
| 2. Municipal Savings | --- |
| 3. Community Cost | \$\$ |
| 4. Community Savings | \$\$ |

Implementation Actions

- Adopt an ordinance requiring minimum water efficiency standards for new development (including water efficient landscaping) and sub-metering for new multi-family and commercial buildings.
- Require that increased demand from new construction be offset with reductions so that there is no net increase in water use, where feasible (CNE Policy 1.1.2).

Co-Benefits



W-4 Expand recycled water use in the community

Performance Objective

- ▷ Achieve 20% of water supply sourced from recycled water by 2035

✧ **GHG Reduction Potential (MT of CO₂e) 10,054**

Estimated Cost + Savings

1. Municipal Cost \$\$
2. Municipal Savings ---
3. Community Cost \$
4. Community Savings \$

Implementation Actions

- ▷ Continue to work with local water purveyors in their efforts to construct local water recycling facilities.
- ▷ Partner with local water purveyors, local experts and community organizations (i.e., Greywater Action) to encourage residential and commercial recycled water projects by providing Laundry-to-Landscape (L2L) greywater installation training workshops, rain barrel distribution, financial incentives and/or technical and installation assistance.
- ▷ Offer expedited and/or reduced cost permits to new developments and major renovations of existing developments that include greywater systems or pipes for recycled water.
- ▷ Develop and adopt dual plumbing requirements for use of recycled water for new developments.

Co-Benefits





RAIN BARRELS CATCH RAINWATER FOR THE GARDEN

W-5 Increase municipal water conservation

Implementation Actions

- ▷ Continue to work towards the municipal water conservation goals identified in the Energy Action Plan by implementing its municipal water conservation actions including reducing outdoor water use (Policy 10.1) and reducing water used within existing municipal buildings (Policy 10.2).
- ▷ Complete an assessment of the progress made on municipal water conservation strategies identified in the Energy Action Plan and establish a list of prioritized strategies requiring additional actions.
- ▷ Audit City facilities to identify opportunities for the utilization of appropriate water reduction technology.
- ▷ Assess, maintain, and repair existing plumbing fixtures, pipes, and irrigation systems in all City buildings and facilities to minimize water use, including building and parking lot landscaping, public restrooms, and parks and other recreational facilities.

- ▷ Use recycled water for City operations, including parking lot landscaping, parks, and medians, where feasible. Incorporate compost and mulch into City landscaping to reduce watering frequency.

Performance Objective

- ▷ Achieve 50% reduction in City water usage by 2035
 - ✧ **GHG Reduction Potential (MT of CO₂e) 23**

Estimated Cost + Savings

- | | |
|----------------------|----------|
| 1. Municipal Cost | \$\$\$\$ |
| 2. Municipal Savings | \$ |
| 3. Community Cost | --- |
| 4. Community Savings | --- |

Co-Benefits





RECYCLED WATER IS USED BY THE CITY FOR ALL PUBLIC LANDSCAPES.

Transportation



On-road transportation emissions are a result of gasoline and diesel consumption from VMT by people travelling in on-road vehicles (e.g., cars, trucks, buses) in, to, or from La Cañada Flintridge.

Off-road sources include recreational equipment, industrial equipment, construction equipment, lawn and garden equipment, and commercial equipment. Transportation-related sources were responsible for approximately 58% of La Cañada Flintridge's GHGs in 2014.

La Cañada Flintridge has a free public shuttle, the LCF Shuttle, which operates in the commercial area along Foothill Boulevard. The city is also served by Metro, Los Angeles Department of Transportation, Pasadena Area Rapid Transit (ARTS), and the Glendale Beeline. Despite the availability of public transit, the majority of residents and visitors rely on car and truck travel to move about the city and its surrounding areas.

Even though the city has a compact layout, active transportation is not a popular mode of travel because terrain is steep and bicycle and pedestrian infrastructure is minimal. Congestion from daily traffic places increased pressure on the city's transportation infrastructure, reduces mobility and increases emissions.

GHG emissions reductions related to transportation focus on reducing VMT. This involves reducing automobile dependence by facilitating smart growth development patterns, promoting walking, bicycling, and public transit as viable transportation options, and managing transportation demand.

While getting people out of single-occupancy vehicles is key to reducing congestion and carbon emissions, personal vehicles will likely continue to be one of the primary modes of transportation. Therefore, encouraging cleaner, alternative fuels will help reduce pollution and promote a growing market for both on- and off-road, low-emissions vehicles.

Reducing VMT and transportation-related GHG emissions benefits La Cañada Flintridge residents and business owners by reducing costs associated with fuel purchases and vehicle maintenance, limiting congestion on local roadways, and improving public health and air quality.

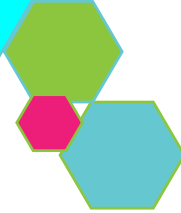


A LOCAL BUSINESS FEATURES AN ARTISTIC WAY TO SECURE BICYCLES.



BUS 33 OF THE LCF SHUTTLE RUNS BETWEEN LA CAÑADA FLINTRIDGE AND MONTROSE.

T-1 Expand and improve the city's bicycle, pedestrian and equestrian networks



Implementation Actions

- ▷ Implement the bicycle and pedestrian network improvements identified in the General Plan Circulation and Land Use Elements:
 - ✧ Create a Bicycle Master Plan.
 - ✧ Develop Class II bike lanes on Foothill Blvd, Verdugo Blvd and Angeles Crest Hwy and Class III bike lanes on La Cañada Boulevard, Oakwood Ave, Gould Ave, Knight Way, and Vista del Valle consistent with the General Plan Circulation Element.
 - ✧ Create a multi-use pedestrian/bike parkway along the south side of Foothill Boulevard between Mayors' Discovery Park and the YMCA, with possible further extension to the west (LUE Policy 2.3.7).
 - ✧ Assemble the right-of-way and create improvements for a circular trail to connect the Mayors' Discovery Park, the Rockridge conservation area, the Link Linear Park on Foothill Boulevard, and the YMCA (LUE Policy 2.3.8).
- ▷ Enhance pedestrian access of the 210 Freeway underpass at Hampton Road to the east crossing Foothill Boulevard to be pedestrian friendly, including lighting improvements, landscaping, and a maintenance program.
- ▷ Improve the design of pedestrian (sidewalk) freeway overpasses through the incorporation of landscaping, artwork, and street furniture.
- ▷ Develop a "Complete Streets" Plan in the city, which is designed and operated to enable safe and convenient access for all users of all ages and abilities, including pedestrians, bicyclists, motorists, transit riders, and equestrians (CE Policy 1.1.3).
 - ▷ Consider developing a community bike share program, with priority on purchasing electric bikes (e.g., Propella Electric Bikes) to reduce barriers associated with steep terrain.
 - ▷ Work with La Cañada Unified School District to purchase electric bikes for a district-wide bike sharing program or to provide rebates and other incentives for students who purchase electric bikes to commute to school.
 - ▷ Identify locations to install additional bike racks, bike lockers, and drinking fountains.
 - ▷ Install bike tool stations or self-serve repair kiosks near bike infrastructure to increase access to tools to repair and maintain bike function.
- ▷ Continue to apply for grants and research/pursue other funding opportunities to facilitate network improvements and expansions.
- ▷ Incorporate multi-modal improvements into new and redevelopment projects, pavement resurfacing, restriping, and signal operations.

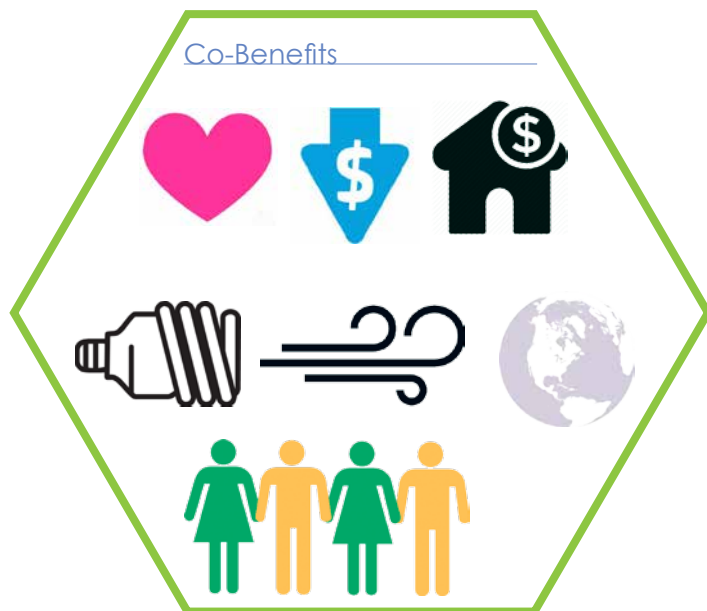
Performance Objective

- ▷ Install 5.5 miles of Class II bike facilities, 0.7 miles of bikeway, 0.7 miles of trail, 10 bicycle racks, and 3 bicycle lockers, achieve a 0.5% reduction in Crown Ave and Foot-hill Blvd ADT, and purchase 50 electric bicycles for student bicycle share program and 30 bicycles for community bicycle share program by 2035.

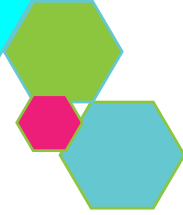
✧ **GHG Reduction Potential (MT of CO₂e) 345**

Estimated Cost + Savings

- | | |
|----------------------|--------|
| 1. Municipal Cost | \$\$\$ |
| 2. Municipal Savings | \$\$ |
| 3. Community Cost | \$ |
| 4. Community Savings | Varies |



T-2 Improve safety and comfort for bicyclists, pedestrians, and equestrians



Implementation Actions

- ▷ Improve safety for bicyclists, pedestrians, and equestrians along Foothill Boulevard by conducting a study to determine the most appropriate improvements, which may include:
 - ✧ Widening sidewalks along the entirety of Foothill Boulevard
 - ✧ Installing curbs, medians, landscaping, artwork, and/or barriers to separate bike lanes from vehicle traffic
 - ✧ Reducing auto lanes and/or on-street parking to slow traffic speeds and provide needed space for bicycle and pedestrian improvements. This may also discourage the use of Foothill Boulevard by regional through-traffic consistent with CE Policy 5.2.6.
 - ✧ Evaluating the effects of and need for installing additional signalized intersections
 - ✧ Identifying intersections for bicycle, pedestrian, and equestrian friendly improvements.
- ▷ Improving visibility and safety by increasing signage, painting additional symbols and/or adding color to the bike lanes.
- ▷ Develop a community-wide awareness and safety program for pedestrian, equestrian, and bicycle safety which may include:
 - ✧ Developing a Bicycle Safety and Road Sharing campaign to promote safety for cyclists and motorists on the road
 - ✧ Working with a non-profit organization, educational facility, or local bike shop to provide adult and children specific bicycle traffic training courses
 - ✧ Hosting community workshops to teach bike basics and offer a bike skill swap among community members
- ▷ Work with La Cañada Unified School District to implement Safe-Routes-to-School programs to encourage students to walk or bike to and from school. Safe-Routes-to-School programs may include:
 - ✧ Creation of “walking school bus” programs
 - ✧ Additional of crossing guards
 - ✧ Hosting school-wide bicycling events
 - ✧ Safety and outreach campaigns
 - ✧ School competitions encouraging active transportation to school

Performance Objective

- ▷ Improve 3.5 miles of Foothill Boulevard to be pedestrian and bicycle friendly, and achieve a 10% increase in student bicycle and pedestrian trips to school by 2035
- ✧ **GHG Reduction Potential (MT of CO₂e) 109**

Estimated Cost + Savings

1. Municipal Cost **\$\$**
2. Municipal Savings **---**
3. Community Cost **\$**
4. Community Savings **Varies**

Co-Benefits



T-3 Expand and improve the transit network and its accessibility



Implementation Actions

- ▷ Evaluate the feasibility of expanding transit as follows:
 - ✧ Expand the frequency and hours of service of the LCF Shuttle (CE Policy 2.2.1)
 - ✧ Work with the Glendale Beeline to provide service along Foothill Boulevard through Verdugo Boulevard
 - ✧ Enhance transit connections to Metro and Pasadena Area Rapid Transit (ARTS) (CE Policy 2.2.3)
- ▷ Work with regional and local transit providers to enhance customer service and system ease-of-use by supporting development features such as:
 - ✧ Regional Pass system to reduce the number of different passes and tickets required of system users
 - ✧ “Smart Bus” technology, using global positioning satellite (GPS) and electronic displays at transit stops, to provide customers with “real time” arrival and departure time information (and to allow the system operator to respond more quickly and effectively to disruptions in service)
 - ✧ Regional on-line trip planning program (CE Policy 2.2.4)
- ▷ Upgrade and maintain the transit system infrastructure to enhance public use, including:
 - ✧ Ensuring transit stops are safe, convenient, clean and efficient
 - ✧ Ensuring transit stops have clearly marked street-level designation and are accessible
 - ✧ Ensuring transit stops are safe, sheltered, benches are clean, and lighting is adequate
 - ✧ Placing transit stops along transit corridors within mixed-use or transit-oriented development areas at intervals of three to four blocks, or no less than one-half mile (CE Policy 2.2.5)
- ▷ Through the development review process, require new development to provide safe routes to adjacent transit stops, where applicable, and to finance and construct bus turnouts and shelters adjacent to new projects where transit demand warrants such improvements.
- ▷ Provide incentives for transit use, such as free and/or pre-tax transit passes.
- ▷ Continue to research and pursue funding opportunities to implement transit network improvements and expansions.
- ▷ Coordinate with Metropolitan Transit Authority and regional agencies to conduct commuter surveys and develop a public awareness campaign aimed at residents of communities like La Cañada Flintridge.

Performance Objective

- ▷ Increase ridership on the LCF shuttle by 20% and on the Glendale Beeline by 5%; reduce commutes to Pasadena and Los Angeles by 2%; and achieve 0.3% VMT reduction in single-occupancy VMT as a result of mode switch to transit by 2035

✧ **GHG Reduction Potential (MT of CO₂e) 584**

Estimated Cost + Savings

1. Municipal Cost **\$\$-\$\$\$**
2. Municipal Savings **---**
3. Community Cost **\$**
4. Community Savings **Varies**

Co-Benefits



T-4 Reduce commute trips



Implementation Actions

- ▷ Work with the La Cañada Unified School District and the city's major employers (JPL, Allen Lund Company) to develop and implement transportation demand management (TDM) programs for students and employees. Strategies may include ride-matching programs, "guaranteed ride home" programs, employer-sponsored vanpools, and other techniques as appropriate for each employer.
- ▷ Develop and implement a TDM program for City employees.
- ▷ Work with local organizations (i.e., Hop-Skip-Drive) to organize rides for children through carpooling and driving service.
- ▷ Conduct local transportation surveys to better understand the community's needs and motivation for traveling by car versus other alternatives such as biking, walking or transit.
- ▷ Encourage carpooling by conducting community outreach and facilitating carpool groups by holding community events and developing an online platform to connect residents and employees travelling in the same direction.
- ▷ Pilot and implement a car-sharing network (with preference for low and zero-emissions vehicles) which includes a fleet of neighborhood electric vehicles (NEV) as well as standard passenger vehicles and vans. Include dedicated on-or off-street parking spaces.
- ▷ Identify and establish additional Park-n-Ride facilities.

Performance Objectives

- ▷ Reduce VMT by 1% through ridership programs; achieve 4% participation in City TDM program and 0.8% participation in community ridership program; develop a 50 vehicle NEV program, and reduce commutes by 0.1% through Park and Ride facilities by 2020
 - ✧ 2020 GHG Reduction Potential (MT of CO₂e) 938
- ▷ Maintain through 2035
 - ✧ 2035 GHG Reduction Potential (MT of CO₂e) 743

Co-Benefits



Estimated Cost + Savings

1. Municipal Cost \$\$\$ - \$\$\$\$
2. Municipal Savings ---
3. Community Cost \$
4. Community Savings Varies



T-5 Improve traffic flow and reduce vehicle idling



Implementation Actions

- ▷ Implement technology and intelligent transportation systems (ITS) to smooth traffic flow, reduce idling, and eliminate bottlenecks, with priority on synchronizing traffic signalization timing on Foothill Boulevard, Angeles Crest Highway, and Verdugo Boulevard
- ▷ Implement smart parking technologies such as improved signage and ITS to notify motorists in real time of available spaces in parking garages, park-and-ride lots, and other parking facilities
- ▷ Work with La Cañada Unified School District to investigate and adopt strategies to improve vehicular circulation around schools and school-owned facilities located within the city (CE Policy 4.2.7)
- ▷ Develop an idling ordinance to limit idling in high congestion locations such as commercial loading zones and school pick-up/drop-off zones
- ▷ Extend the North Road from its current terminus to Rinetti Lane to provide parallel capacity to Foothill Boulevard (CE Policy 5.2.1)
- ▷ Conduct education campaigns to promote fuel-efficient driving (“eco-driving”) practices such as reduced idling, slower driving speeds, gentle acceleration, and proper tire inflation

Performance Objective

- ▷ Achieve 10% reduction in fuel consumption from reduced idling along Foothill Blvd, 10% reduction in VMT for Verdugo Park & Ride lot expansion, 10% reduction in school idling for pick-up trips, 10% reduction in heavy-duty vehicle idling for inbound/delivery trips, and 1% participation in fuel-efficient driving practices, and install 0.35 miles of bikeway along the North Road extension by 2035
- ✧ **GHG Reduction Potential (MT of CO₂e) 1,569**

Estimated Cost + Savings

- | | |
|----------------------|----------|
| 1. Municipal Cost | \$\$\$\$ |
| 2. Municipal Savings | --- |
| 3. Community Cost | --- |
| 4. Community Savings | \$ |

Co-Benefits



T-6 Encourage low-carbon and alternative fuel vehicles



Implementation Actions

- ▷ Create an updated inventory of available charging infrastructure and partner with Southern California Edison to install additional charging stations in key community locations such as City Hall, Memorial Park, Town Center, UA La Cañada 8 Movie Theatre, JPL, and sports fields.
- ▷ Coordinate with the California Center for Sustainable Energy and the California Plug-In Electric Vehicle Collaborative to develop streamlined permitting requirements, standardized design guidelines, and siting criteria for all types of electric charging stations.
- ▷ Update the Zoning Code to allow and/or require electric vehicle charging infrastructure including properly wired outdoor receptacles to accommodate ZEV and/or plug-in electric hybrids, a minimum number of charging stations per parking places, and appropriate signage to both promote and guide users to charging stations.
- ▷ Work with SCAG to implement the Southern California Plug-in Electric Vehicle Readiness Plan as it pertains to La Cañada Flintridge.
- ▷ Encourage the development of a compressed natural gas or other alternative fueling stations within the city to support the conversion of heavy-duty gasoline and diesel vehicles to alternative fuels.
- ▷ Partner with community organizations to provide outreach, education

Performance Objective

- ▷ Achieve installation of six new EV charging stations and conversion of 15% of heavy-duty vehicles to CNG by 2035
- ✧ **GHG Reduction Potential (MT of CO₂e) 313**

Estimated Cost + Savings

1. Municipal Cost **\$\$\$ - \$\$\$\$**
2. Municipal Savings **---**
3. Community Cost **Varies**
4. Community Savings **Varies**

Co-Benefits



T-7 Implement low-emissions fleet vehicles



Implementation Actions

- ▷ Develop a low- and zero-emissions replacement/purchasing policy for official City vehicles and equipment.
- ▷ Identify and secure funding (e.g., through CARB, California Energy Commission, and/or California Center for Sustainable Energy) to purchase low- and zero-emissions fleet vehicles and equipment.
- ▷ Establish bidding standards and contracting practices that include preferences or points for the use of low or zero emission vehicles and equipment (AQ Policy 5.4.2).

Performance Objective

- ▷ Increase use of low emissions vehicles by 2020 and 2035
 - ✧ Supportive measure-no GHG potential reduction

Estimated Cost + Savings

1. Municipal Cost \$\$\$ - \$\$\$\$
2. Municipal Savings ---
3. Community Cost Varies
4. Community Savings Varies

Co-Benefits



T-8 Facilitate high-density, mixed-use, transit-oriented and infill development in appropriate locations consistent with community character



Implementation Actions

- Implement new Mixed Use and High Density Residential land use changes in locations consistent with the Land Use Element.
- Identify vacant or underutilized parcels to prioritize for infill development and establish a plan to develop the properties consistent with community needs (i.e., housing, community garden, active recreation, transit station, etc.)
- Provide incentives for private property owners and developers to develop vacant or underutilized parcels within the urban core.
- Through the development review process, evaluate new development projects based on consistency with the City's Land Use Element; prioritize high density, mixed-use, transit-oriented, and infill development.

- Continue to work with SCAG to implement the RTP/SCS as it relates to La Cañada Flintridge.
- Showcase smart growth projects on the City's website and through promotional events/tours.

Performance Objective

- Increase use of low emissions vehicles by 2020 and 2035
 - ✧ Supportive measure-no GHG potential reduction

Estimated Cost + Savings

- | | |
|----------------------|--------|
| 1. Municipal Cost | --- |
| 2. Municipal Savings | --- |
| 3. Community Cost | --- |
| 4. Community Savings | Varies |

Co-Benefits



T-9 Reduce emissions from construction equipment and vehicles



Implementation Actions

- Through the construction permitting process, limit construction vehicle and equipment idling time to 3 minutes and require the project applicant to provide an idling briefing to the contractor and post clear signs for workers throughout the site.
- Develop an ordinance to require a percentage of construction vehicles and equipment to be electrically powered or use alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel where feasible; require contractors to provide written explanation if infeasible.

- Prohibit the use of onsite generators, where feasible, by requiring contractors to connect to grid electricity or utilize solar-powered equipment; require contractors to provide written explanation if infeasible.

Performance Objective

- Increase use of low emissions vehicles by 2020 and 2035
 - ✧ Supportive measure-no GHG potential reduction

Estimated Cost + Savings

- | | |
|----------------------|--------|
| 1. Municipal Cost | --- |
| 2. Municipal Savings | --- |
| 3. Community Cost | Varies |
| 4. Community Savings | Varies |

Co-Benefits



T-10 Reduce emissions from lawn and garden equipment



Implementation Actions

- Provide incentive payments for residents and local gardeners who replace lawn and garden equipment (i.e., lawn mowers, leaf-blowers, etc.) with low-emission alternatives
- Consider amending the Municipal Code to prohibit the use of two-stroke leaf blowers in the city
- Provide educational workshops and training to promote the installation of low-maintenance native landscaping in new and existing developed lots and turf removal to reduce lawn and garden equipment usage

Performance Objective

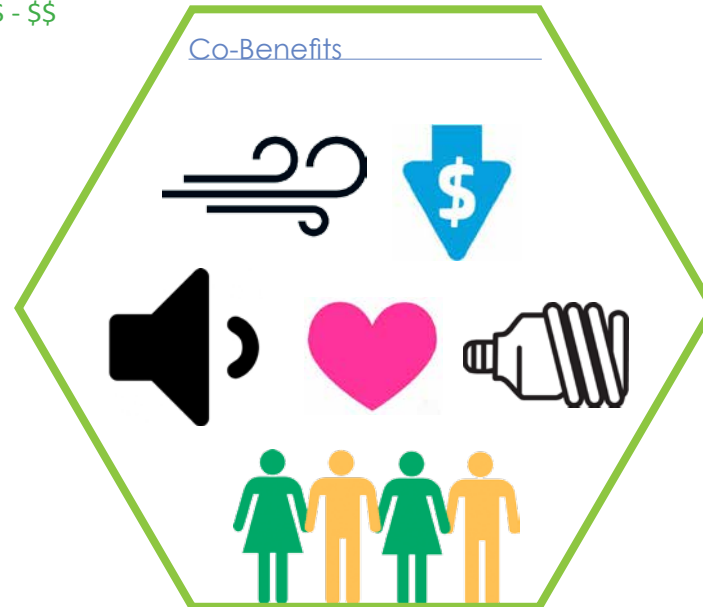
- Replace 75% of lawns with xeriscaping and 75% of gasoline powered leaf blowers with electric blowers by 2035

✧ **GHG Reduction Potential (MT of CO₂e) 6**

Estimated Cost + Savings

- | | |
|----------------------|-----------------|
| 1. Municipal Cost | \$\$ - \$\$\$\$ |
| 2. Municipal Savings | --- |
| 3. Community Cost | \$ |
| 4. Community Savings | \$ - \$\$ |

Co-Benefits



Solid Waste

Solid waste results in GHG emissions associated with methane generation from the decomposition of solid waste sent to landfill and combustion facilities. Process emissions associated with landfilling and emissions associated with collection and transportation of waste are also GHGs associated with solid waste. According to the US Environmental Protection Agency, the lifecycle of goods other than food accounts for one third of all carbon emissions (CalRecycle: California's 2011 Per Capita Disposal Rate). From extraction and processing of raw materials to manufacturing, distribution, use, and disposal, emissions occur at every stage of a product's life. Solid waste generation was responsible for approximately five percent of La Cañada Flintridge's GHG emissions in 2014.

La Cañada Flintridge currently diverts 75 percent of its waste from the landfill (CalRecycle: California's Estimated Statewide Diversion Rates Since 1989). However, La Cañada Flintridge does not have an exclusive franchise with any waste hauler, which results in high waste collection emissions. The following waste haulers are currently authorized to haul waste within the City: Allied Waste Services, Athens Services, Crown Disposal, Looney Bins, and NASA Services. Waste generated in the city is transported by these waste haulers to fourteen different waste



treatment facilities including landfills, combustion facilities, and recycling and recovery centers.

Managing waste responsibly is the first step to improve the efficiency of the materials cycle, avoid exceeding the local landfill capacity and reduce the environmental damage associated with raw material extraction. Waste management can be achieved by reducing the amount of trash and other waste that is discarded, reusing containers, products, and building materials, and recycling as many materials as possible, including green waste.

Reducing solid waste and associated GHG emissions benefits La Cañada Flintridge residents and business owners by improving air quality, reducing energy consumption, reducing costs associated with disposal, and reducing congestion and noise associated with waste collection.





DESIGNATED SORTING BINS HELP RECYCLE SOLID WASTE APPROPRIATELY.

SW-1 Reduce community-generated solid waste



Performance Objective

- ▷ Achieve 85% diversion rate by 2035
 - ✧ **GHG Reduction Potential (MT of CO₂e) 3,337**

Estimated Cost + Savings

1. Municipal Cost \$
2. Municipal Savings ---
3. Community Cost **Varies**
4. Community Savings \$

Implementation Actions

- ▷ Adopt a program or ordinance to encourage or require waste audits and waste reduction plans for existing and/or new commercial developments (including JPL and La Cañada School District facilities)
- ▷ Expand community pick-ups and/or drop off locations for plastic and Styrofoam recycling, hazardous waste, e-waste, oil recycling, battery and cell phone drop off locations, sharp needle collection locations, and mercury containing light bulb collection locations
- ▷ Require recycling at special events, such as through special event permit conditions

Co-Benefits





A REMINDER TO REDUCE CONSUMPTION, REUSE WHERE POSSIBLE, AND RECYCLE EVERYTHING POSSIBLE

SW-2 Reduce the amount of organic material sent to landfill



Implementation Actions

- ▷ Conduct a community outreach campaign including advertising in local newspapers, distributing notices to residents or other means of communication to encourage all residents to collect compostable material from kitchen scraps and organic waste.
- ▷ Work with La Cañada Unified School District to implement food waste recycling and composting programs for all facilities and consider incorporating into the educational curriculum.
- ▷ Encourage private property owners to collect and compost kitchen scraps and organic waste by working with community organizations to provide resources, training, and technical assistance.
- ▷ Distribute composting bins and tools (i.e., kitchen pales) to residents for free or provide at a reduced cost through a rebate program.

- ▷ Develop a program for multi-family and commercial properties to collect and compost/mulch all yard waste into mulch or compost for giveaways.
- ▷ Evaluate the feasibility of implementing a residential curbside food waste recycling program and a business food waste redistribution and food waste recycling program.

Performance Objective

- ▷ Reduce the amount of organic waste sent to landfills by 38% and achieve 50% community participation and 75% organic waste diversion per resident and employees by 2020.
 - ✧ **GHG Reduction Potential (MT of CO₂e) 1,313**
- ▷ Reduce the amount of organic waste sent to landfills by 53% and achieve 70% community participation and 75% organic waste diversion per resident and employees by 2035.
 - ✧ **GHG Reduction Potential (MT of CO₂e) 1,872**

Estimated Cost + Savings

1. Municipal Cost \$\$ - \$\$\$
2. Municipal Savings ---
3. Community Cost \$
4. Community Savings \$

Co-Benefits

COMPOST BINS TURN KITCHEN AND GARDEN WASTE INTO MULCH AND FERTILIZER.

SW-3 Reuse community goods



Implementation Actions

- ▷ Develop and implement community-wide exchange of goods programs such as a city-wide garage sale day, tennis shoe recycling program, and/or neighborhood power tool co-op.
- ▷ Promote diversion of reusable furniture, appliances, building materials, clothing, household and other items to local reuse enterprises such as thrift stores, Habitat for Humanity ReStore, Goodwill, Salvation Army, and the California Materials Exchange (CalMAX) (AQ Policy 3.5.7).

Performance Objective

- ▷ Develop and implement a community-wide exchange of goods programs by 2020 and 2035
 - ✧ Supportive Measure – no GHG Reduction Potential

Estimated Cost + Savings

- | | |
|----------------------|-----|
| 1. Municipal Cost | \$ |
| 2. Municipal Savings | --- |
| 3. Community Cost | --- |
| 4. Community Savings | \$ |

Co-Benefits



SW-4 Remove and reduce single-use items



Performance Objective

➤ Reduce the use of single-use items by 75% by 2035

✧ **GHG Reduction Potential (MT of CO₂e) 269**

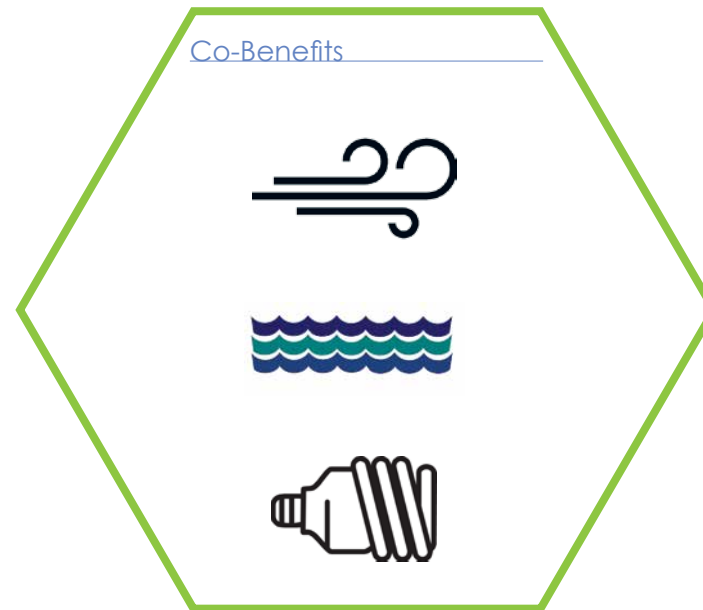
Estimated Cost + Savings

- | | |
|----------------------|---------|
| 1. Municipal Cost | \$ |
| 2. Municipal Savings | --- |
| 3. Community Cost | \$ - SS |
| 4. Community Savings | --- |

Implementation Actions

- Encourage a shift to multiuse-food ware containers, reusable bags and other alternatives by reaching out to local businesses.
- Draft a sustainable food service ware ordinance or suggest a single-use fee for all take-out containers (similar to single use paper bag fee at grocery stores).
- Develop ordinances to remove additional single use items (i.e., plastic bags and polystyrene food packaging) from the waste stream

Co-Benefits



SW-5 Reduce construction and demolition waste



Implementation Actions

- ▷ Adopt a program to increase asphalt recycling and the use of recycled asphalt and cement:
 - ✧ Require recycled asphalt pavement (RAP) for streets and roads
 - ✧ Require RAP for community and commercial parking lots, where feasible
 - ✧ Encourage schools and public agencies to use RAP for parking lots
 - ✧ For City-sponsored projects, require 100 percent in-place recycling of recovered asphalt concrete and Portland cement, where feasible
 - ✧ Considering modification of the City's Construction and Demolition Debris Ordinance to increase the minimum diversion rate for asphalt and concrete (AQ Policy 3.5.9)

- ▷ Encourage all Construction and Demolition projects to divert 90% or more materials from the landfill through reuse programs and recycling.
- ▷ Adopt a "deconstruction" program or ordinance to salvage and reuse materials in all multi-family and commercial remodeling projects.

Performance Objective

- ▷ Achieve diversion of 90% of construction and demolition waste by 2035

✧ **GHG Reduction Potential (MT of CO₂e) 362**

Estimated Cost + Savings

- | | |
|----------------------|----|
| 1. Municipal Cost | \$ |
| 2. Municipal Savings | \$ |
| 3. Community Cost | \$ |
| 4. Community Savings | \$ |

Co-Benefits





THE CITY HAS ORDINANCES IN PLACE TO INCREASE THE DIVERSION RATES FOR ASPHALT AND CONCRETE FROM LANDFILLS TO REUSE SITES.

SW-6 Improve efficiency of waste collection



Implementation Actions

- Require waste haulers to utilize trucks that operate on renewable or lower carbon fuels. Older trucks that are not candidates for retrofit should be phased out of operation.
- Assess the feasibility of purchasing solar powered waste bins for placement throughout the city to reduce service pick-up.
- Investigate and enter into a cost-effective franchise agreement with the minimum number of trash haulers necessary to provide trash and recycling services in the city.

Performance Objective

- Reduce waste collection emissions by 50% by 2035
 - ✧ **GHG Reduction Potential (MT of CO₂e) 267**

Estimated Cost + Savings

1. Municipal Cost \$ - \$\$\$
2. Municipal Savings *Varies*
3. Community Cost \$
4. Community Savings \$

Co-Benefits



SW- 7 Reduce City-generated solid waste



Implementation Actions

- Audit City facilities to identify opportunities to reduce waste generation, increase material recovery, and increase beneficial use of organic material. Where practical, implement the recommendations of the audits (AQ Policy 5.5.1)
- Adopt purchasing practices and standards to support reductions in GHG emissions, including preferences for energy-efficient office equipment and the use of recycled materials and manufacturers that have implemented green management practices (AQ Policy 5.4.1)
- Establish bidding standards and contracting practices that include preferences or points for the recycled materials (AQ Policy 5.4.2)
- Create an internal reuse program for all City departments to recirculate reusable goods, furniture and office supplies
- Compost and mulch green wastes from City landscaping

Performance Objective

- Achieve 75% diversion rate by 2020
- Achieve 85% diversion rate by 2035

Estimated Cost + Savings

1. Municipal Cost \$
2. Municipal Savings \$
3. Community Cost ----
4. Community Savings ----

Co-Benefits



Urban Greening

Trees and other vegetation absorb and capture the GHG carbon dioxide from the atmosphere in a process called carbon sequestration. By maintaining a healthy urban forest, prolonging the life of trees, and continually increasing the number of trees in the city, La Cañada Flintridge can increase its net carbon storage over the long term.

The city of La Cañada Flintridge is a “Tree City USA.” The Tree City USA® program is sponsored by the Arbor Day Foundation in cooperation with the USDA Forest Service and the National Association of State Foresters. It provides direction, technical assistance, public attention, and national recognition for urban and community forestry programs. The City’s Municipal Code includes Tree Preservation and Protection Guidelines and the Energy Action Plan and General Plan include actions that support improving and expanding the city’s urban forest.

Unlike traditional public infrastructure, natural systems like urban forests provide green infrastructure and tend to increase in value over time. They provide additional benefits to community members, such as improved air quality, water quality, and access to nature.



Trees and other vegetation also help reduce local surface temperature by shading buildings, streets, and sidewalks, and enhancing community beautification.



URBAN FORESTS BEAUTIFY THE CITY AND CONTRIBUTE TO GHG REDUCTIONS.



JAPANESE BRIDGE IN DESCANSO GARDENS

UG-1 Create an urban forest inventory



Performance Objective

- ▷ Complete an urban forest inventory by 2020.
- ▷ Identify new locations for additional trees by 2035
 - ✧ Supportive measure – no GHG Reduction Potential

Implementation Actions

- ▷ Conduct a comprehensive inventory and analysis of the urban forest (AQ Policy 5.3.1)
- ▷ Identify and map locations to plant additional trees with priority given to shading homes, public facilities, critical infrastructure and bicycle and pedestrian routes

Estimated Cost + Savings

- | | |
|----------------------|------|
| 1. Municipal Cost | \$ |
| 2. Municipal Savings | --- |
| 3. Community Cost | ---- |
| 4. Community Savings | ---- |

UG-2 Conduct community tree planting



Performance Objective

- ▷ Plant 100 new trees by 2020
 - ✧ **GHG Reduction Potential (MT of CO₂e) 4**
- ▷ Plant 250 new trees by 2035
 - ✧ **GHG Reduction Potential (MT of CO₂e) 12**

Estimated Cost + Savings

1. Municipal Cost \$\$ - \$\$\$
2. Municipal Savings ---
3. Community Cost \$
4. Community Savings \$

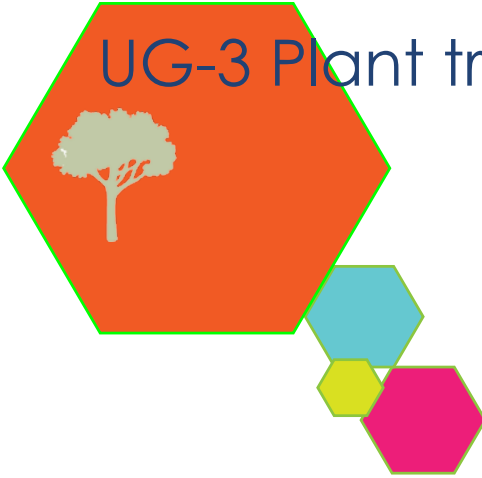
Implementation Actions

- ▷ Encourage private property owners to plant trees on their property by working with community organizations to provide resources, technical assistance, and volunteer labor
- ▷ Provide incentives to facilitate community tree planting such as potted tree giveaways and rebates for planting of shade trees
- ▷ Conduct an annual community tree planting/maintenance day to facilitate planting of additional trees and necessary maintenance on existing trees
- ▷ Publish and/or distribute brochures describing how to plant trees and shrubs to reduce energy demand
- ▷ Develop an ordinance requiring new development to plant appropriate building shade trees in accordance with the published tree planting guidance

Co-Benefits



UG-3 Plant trees on City property



Implementation Actions

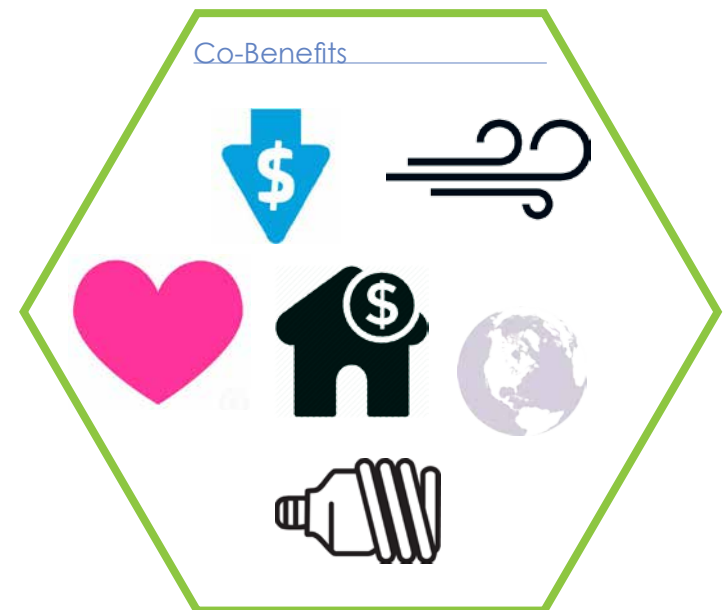
- Continue to plant native and drought tolerant trees around new and existing City buildings and facilities
- Routinely budget for street trees and identify funding sources to increase the City's budget for tree planting and maintenance

Performance Objective

- Plant 100 new trees by 2035
 - ✧ **GHG Reduction Potential (MT of CO₂e) 4**

Estimated Cost + Savings

1. Municipal Cost \$\$\$\$
2. Municipal Savings \$
3. Community Cost ----
4. Community Savings ----



UG-4 Preserve, enhance, and acquire additional greenspace



Implementation Actions

- Implement the linear park identified in the Link and West Gateway Corridor Improvement Recommendations (2004) from the Crescenta- Cañada YMCA west to the commercial area (LUE Policy 2.3.6)
- Identify and map public spaces that can be converted to green space such as public parking that can be converted to parklets, freeway airspace that can be converted to greenspace, and rooftops of public buildings that can be converted to gardens
- Amend the building code/design guidelines to allow businesses and other organizations to incorporate non-traditional greenspace such as converting curbside parking to parklets and rooftops to gardens
- Encourage the dedication of additional lands to public open space, in cooperation with the Santa Monica Mountains Conservancy, Rim of the Valley Corridor Special Resource Study, and other partners and open space conservation efforts (OSRE Policy 2.1.7)

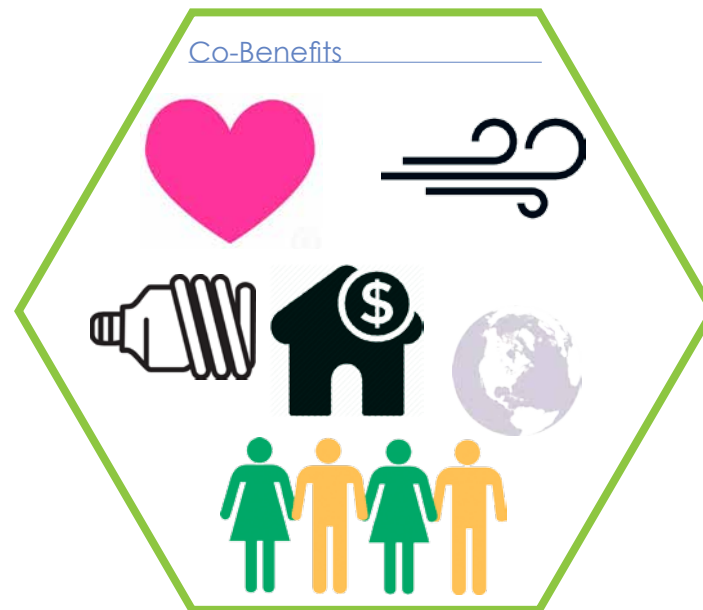
Performance Objective

- Increase green space by 10 acres by 2035
- ✧ **GHG Reduction Potential (MT of CO₂e) 43**

Estimated Cost + Savings

1. Municipal Cost ---
2. Municipal Savings ---
3. Community Cost \$
4. Community Savings ----

Co-Benefits



Adaptation

Two responses to climate change are available: mitigation and adaptation. The previous focus areas have primarily addressed reducing GHG emissions to help limit future climate change. This section addresses adaptation, or preparing for and managing risk associated with climate change effects (Table 10).

Scientific evidence indicates that even if we could halt GHG emissions today, the world will still experience a warming climate for decades to come. In recent years, California has seen increased average temperatures, more extreme hot days, fewer cold nights, longer growing seasons, less winter precipitation and both snowmelt and rainwater running off earlier in the year. These climate driven changes will affect resources critical to the health and prosperity of La Cañada Flintridge.

A recent study on the impacts of climate change specific to the Los Angeles region revealed that average temperatures in the region are expected to increase four to five degrees by mid-century. The number of heat days (when temperatures are over 95°F) experienced throughout the year is expected to quadruple in the San Gabriel Valley (County of Los Angeles Public Health 2014).

As these scenarios unfold, La Cañada Flintridge must understand its current and future vulnerabilities and



create a plan that will prepare the community for the new realities of a warming planet. Additionally, the City will periodically monitor community GHG emissions, evaluate progress, identify new measures and re-examine associated actions to ensure significant reductions in GHG emissions reductions are being achieved in accordance with the targets established in this CAP.

TABLE 10 PRIMARY AND SECONDARY IMPACTS OF CLIMATE CHANGE

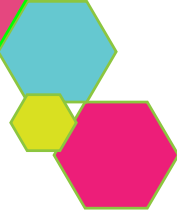
Primary Impact	Associated Secondary Impact
Changed temperature and/or precipitation patterns	Changed seasonal patterns, intense rainstorms
Increased temperature	Heat wave
Wildfire	Landslide
Increased temperature/reduced precipitation	Heat wave, drought, wildfire, reduced snowpack

Source: California Adaptation Planning Guide 2012.



SOLAR ARRAYS ARE ONE WAY TO ADAPT ENERGY NEEDS TO SUSTAINABILITY MEASURES AND REDUCE GHGs.

A-1 Identify and periodically reassess local climate change vulnerabilities



Estimated Cost + Savings

1. Municipal Cost \$\$\$
2. Municipal Savings ---
3. Community Cost ---
4. Community Savings ----

Implementation Actions

- Conduct a climate change vulnerability assessment of vulnerable populations, structures, and functions
- Review the findings of the climate change vulnerability assessment with relevant City departments to ensure that vulnerable community populations, structures, and functions are understood and that appropriate actions are taken to protect these vulnerabilities
- Incorporate newly identified adaptation measures into planning documents, including the Safety Element, Hazard Inventory, and Hazard Mitigation Plan, as appropriate.
- Hold public outreach events including public workshops and climate change preparedness fairs to educate community members about local climate change vulnerabilities

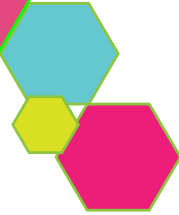
Co-Benefits





SMOG AND POOR AIR QUALITY IN THE LOS ANGELES BASIN

A-2 Improve quality and reliability of the City's water supply



Implementation Actions

- ▷ Improve stormwater capture and groundwater recharge by:
 - ✧ Identifying and mapping potential locations to replace impervious surfaces with landscaped green spaces, permeable pavement, rain gardens and/or bioswales.
 - ✧ Increasing stormwater capacity and reducing flooding by identifying locations to divert or redirect water run-off and improve culverts and other stormwater infrastructure.
 - ✧ Promoting the implementation of Low Impact Development stormwater management techniques in new or rehabilitated commercial or residential projects (LUE Policy 3.1.7).

- ▷ Improve water quality by:
 - ✧ Developing best management practices for water quality and watershed enhancements and encouraging their implementation voluntarily and through review of development applications (CNE Policy 1.2.6).
 - ✧ Working with governmental and environmental partners to improve water quality in the Arroyo Seco Watershed through support of water quality improvement programs (CNE Policy 1.2.3).
- ▷ Work with local water purveyors to conduct a study to explore the feasibility of relying more heavily on local groundwater wells rather than imported water.
- ▷ Implement the CAP measures that facilitate water conservation

Estimated Cost + Savings

- | | |
|----------------------|------|
| 1. Municipal Cost | --- |
| 2. Municipal Savings | --- |
| 3. Community Cost | --- |
| 4. Community Savings | ---- |



WATER QUALITY IMPROVEMENTS RESULT IN LOCAL WATER SOURCING

Co-Benefits



A-3 Improve the resilience of systems that provide resources and services critical to community function

Implementation Actions

- ▶ Complete an assessment, including economic impacts and threats to public health and safety, for projected climate change impacts on local transportation, water, wastewater, stormwater, energy, and communication systems.
- ▶ Map vulnerable infrastructure and develop a prioritized list of actions to strengthen the identified vulnerabilities.
- ▶ Define public infrastructure needs and deficiencies that are within the city and include priority projects in the City's budgetary process and/or require mitigation through development, if appropriate (LUE Policy 1.7.2).

- ▶ Evaluate the city's roadways regarding access, alignments, two routes for egress, etc., to facilitate fire, police, and ambulance access and resident egress in case of an emergency (SE Policy 3.1.4).
- ▶ Mobilize a core group of volunteer professionals to render prompt structural evaluation of sites potentially used for emergency mass shelters (SE Policy 3.1.13).
- ▶ Encourage critical City facilities to purchase and/or test back-up power facilities for use during a power failure (SE Policy 3.1.11).
- ▶ Implement the CAP and Energy Action Plan measures that facilitate energy and water conservation and the use of renewable energy.

Estimated Cost + Savings

- | | |
|----------------------|------|
| 1. Municipal Cost | --- |
| 2. Municipal Savings | --- |
| 3. Community Cost | --- |
| 4. Community Savings | ---- |

Emergency Preparedness Checklist

Patient's Name: _____ Date of Birth: _____
Home Address: _____
Home Phone: (____) _____
Sex: M / F Age: _____

- ✓ Discuss what to do about power outage and personal injuries.
- ✓ Draw a floor plan of your home.
- ✓ Post emergency telephone numbers near telephones.
- ✓ Teach children how and when to call 911, police and fire.

Co-Benefits

EMERGENCY PREPAREDNESS PLANNING IS CRITICAL TO COMMUNITY SAFETY

A-4 Improve public preparedness



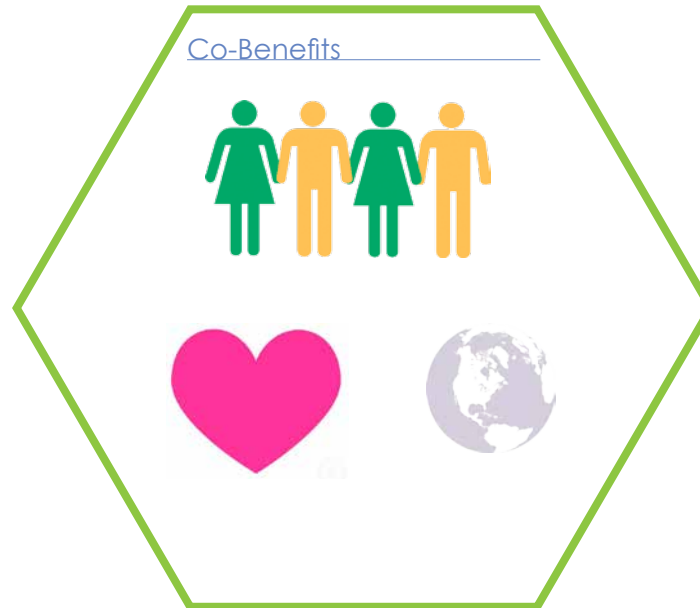
Estimated Cost + Savings

1. Municipal Cost ---
2. Municipal Savings ---
3. Community Cost ---
4. Community Savings ----

Implementation Actions

- ▷ Prepare for anticipated climate change effects on public health, the local economy, and populations that may bear a disproportionate burden of the climate change effects
- ▷ Update the Local Hazard Mitigation Plan to address the hazards and public health risks associated with climate change
- ▷ Collaborate with community-based organizations (e.g., health care providers, public health advocates, fire prevention organizations) to disseminate public preparedness and emergency response information related to climate change

Co-Benefits





PUBLIC INFORMATION SYSTEMS KEEP CITIZENS AWARE OF URGENT SITUATIONS LIKE THE STATION FIRE OF 2009. PHOTO COURTESY M.B. TRAMA

A-5 Develop a heat response plan



Implementation Actions

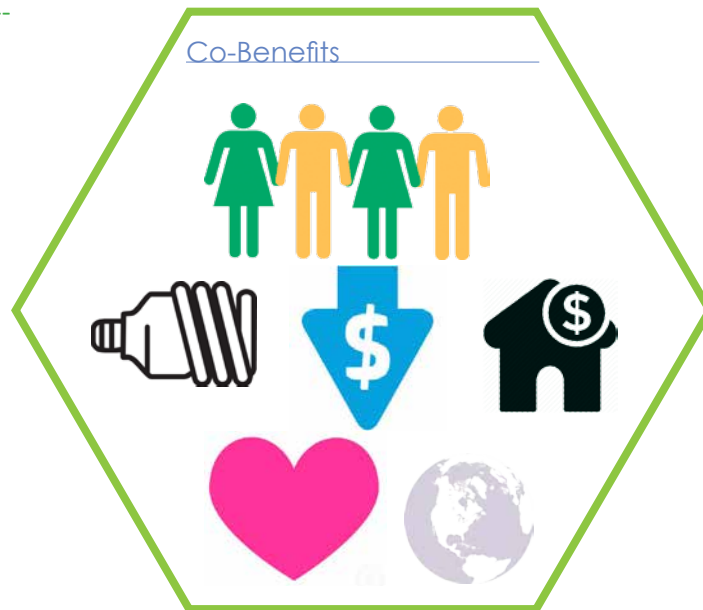
- Identify locations to establish community cooling centers and a plan for transporting people to the centers when needed.
- Promote cool roofs (Energy Action Plan Policy 5.2) and consider passing a “Cool Roof Ordinance” that phases out or bans the use of black or dark roofs, through new development standards and roof replacement requirements
- Develop and adopt an Urban Heat Island Mitigation policy or program that includes the use of alternative materials for roads and roofing, the planting of shade trees over parking lots on public and private property, and other land use techniques to combat urban heat island effects (AQ Policy 3.3.4)

- Continue to increase tree planting and urban greenspace by implementing the urban greening measures identified in the CAP, with emphasis on shading homes, critical infrastructure and bicycle and pedestrian routes

Estimated Cost + Savings

1. Municipal Cost ---
2. Municipal Savings ---
3. Community Cost ---
4. Community Savings ---

Co-Benefits





RIISING TEMPERATURES ARE A RESULT OF CLIMATE CHANGE

A-6 Improve access to healthy foods



Estimated Cost + Savings

1. Municipal Cost ---
2. Municipal Savings ---
3. Community Cost ---
4. Community Savings ----

Implementation Actions

- ▷ Partner with community organizations and volunteers to disseminate education, best practices, and provide technical assistance to other community members related to home and community gardening
- ▷ Work with La Cañada Unified School District to initiate participation in the Real Food Challenge by establishing minimum organic and local source standards for all food served at schools and district facilities including incorporation of edible school gardens

Co-Benefits





EDIBLE GARDENS AND FARMERS' MARKETS ARE WAYS TO ENCOURAGE ACCESS TO LOCALLY-GROWN, HIGH-QUALITY FOOD.

A-7 Identify, protect, and/or restore locations that serve as habitat, corridors and/or linkages between undeveloped areas



Hall-Beckley Canyon, Snover Canyon, Hay Canyon, and their surrounding hillsides (CNE Policy 1.5.1)

- ▷ Work with community organizations and volunteers to implement the Flint Wash Restoration Project and other identified restoration projects (CNE Policy 1.2.4)

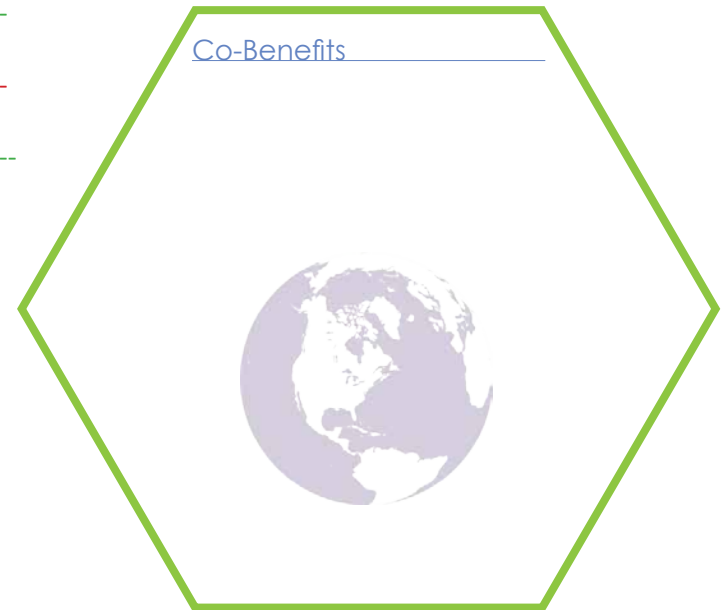
Implementation Actions

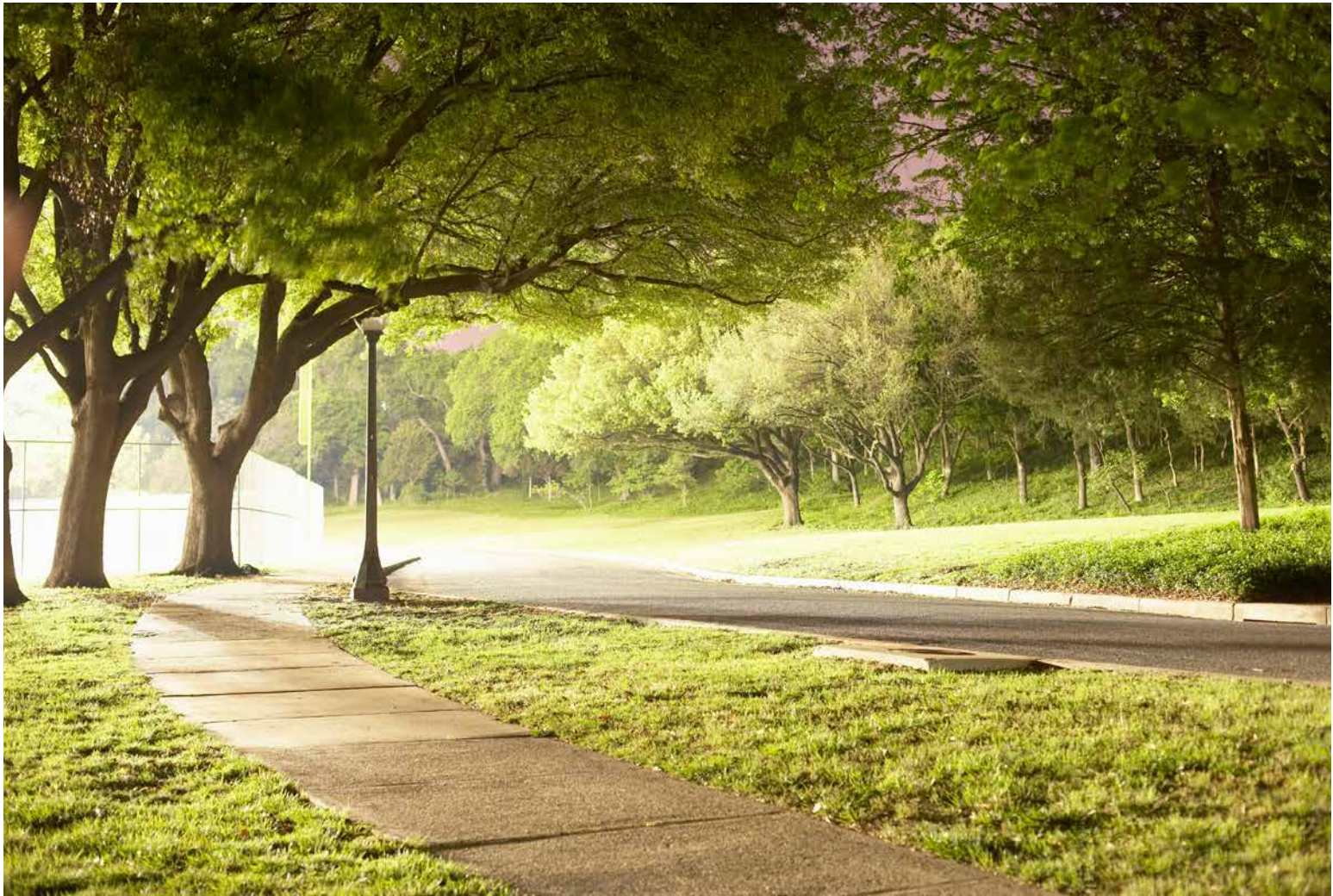
- ▷ Create an updated inventory and assessment of natural habitat areas in and immediately adjacent to the city and establish a prioritized list of natural areas for protection and/or restoration
- ▷ Consider conducting evaluations and mapping of all vegetation and/or habitat communities on vacant and undeveloped land that is ½-acre or greater in area (CNE Policy 1.5.2)
- ▷ Cooperate regionally with other municipalities and Los Angeles County to preserve natural open space corridors for wildlife (OSRE Policy 2.1.8)
- ▷ Make reasonable efforts to acquire from willing sellers large portions of hillside and other properties that contain significant biological resources, such as coastal sage scrub–chaparral, oak woodlands, riparian communities, and wildlife habitat. Open space areas of particular value include Cherry Canyon, Weber Canyon, Gould Canyon, Winery Canyon,

Estimated Cost + Savings

1. Municipal Cost ---
2. Municipal Savings ---
3. Community Cost ---
4. Community Savings ----

Co-Benefits





PARKS AND TRAILS CAN CROSS HABITAT FOR LOCAL WILD SPECIES

A-8 Improve wildfire management

Implementation Actions

- ▷ Work with Los Angeles County to review and update its building and/or fire codes to address construction in the wildland-urban interface (WUI), including requirements of the California Building Commission's adopted WUI codes (SE Policy 1.4.2)
- ▷ Provide a combination of brush clearance, irrigated areas, and fire-resistant planting adjacent to large areas of native vegetation to serve as a buffer between highly hazardous natural fuels and developed areas. Ensure that the buffers will be completed in a manner that is sensitive to plant and animal habitats and will promote erosion control (OSRE Policy 2.2.3)

- ▷ Require property owners to create and maintain defensible space around their buildings and structures in those portions of the city that are adjacent to the WUI interface as mapped (SE Policy 1.4.5).
- ▷ Require the use of fire-retardant roofing material for all new construction and major remodels involving roof additions. Encourage property owners with shake shingle roofs to upgrade to fire-retardant materials (SE Policy 1.4.6)
- ▷ Work with the Fire Department and building inspectors to conduct assessments of homes and businesses located in high wildfire risk areas to ensure compliance with the brush clearance/weed abatement program (SE Policy 1.4.7).

Estimated Cost + Savings

- | | |
|----------------------|--------|
| 1. Municipal Cost | --- |
| 2. Municipal Savings | Varies |
| 3. Community Cost | --- |
| 4. Community Savings | Varies |



WILDFIRE MANAGEMENT SAVES HOMES AND HABITAT

Co-Benefits



Greenhouse Gas Reduction Summary

As discussed in Chapter 2, La Cañada Flintridge is projected to meet its 2020 GHG emissions targets without implementation of additional actions. However, the community will need to reduce its emissions by 148,694 MT of CO₂e by 2035 to meet its 2035 target. The GHG reduction measures in this CAP are estimated to reduce La Cañada Flintridge's GHG emissions by 2,254 MT of CO₂e by 2020 and by 20,965 MT of CO₂e by 2035, as summarized in Table 11. Implementation of the measures identified in this chapter would enable La Cañada Flintridge to meet and exceed its reduction targets in 2020 and 2035.



TABLE 11. SUMMARY OF GHG REDUCTIONS BY MEASURE

CAP Measure	2020 GHG Reduction (MT of CO ₂ e)	2035 GHG Reduction (MT of CO ₂ e)
E-1 Energy Action Plan Community Implementation	--	10,278
E-2 Community-wide Renewable Energy	--	249
E-3 Energy Action Plan Municipal Implementation	--	27
Energy Subtotal	--	10,554
W-1 Establish a Water Conservation Plan	--	3,253
W-2 Water Efficient Retrofits and Upgrades	--	1,856
W-3 Water Efficient New Development	--	66
W-4 Expand Recycled Water	--	1,054
W-5 Municipal Water Conservation	--	23
Water Subtotal	--	3,253
T-1 Bicycle, Pedestrian and Equestrian Network	--	345
T-2 Improve Safety and Comfort for Bicyclists, Pedestrians, and Equestrians	--	109
T-3 Transit Network and Accessibility	--	584
T-4 Commute Trip Reduction	938	743
T-5 Improve Traffic Flow and Reduce Vehicle Idling	--	1,569
T-6 Low Carbon/Alternative Fuel Vehicles	--	313
T-7 Low Emissions City Fleet Vehicles	Supportive	Supportive
T-8 Transit-oriented Land Use	Supportive	Supportive
T-9 Off-Road Equipment	--	95
T-10 Lawn and Garden Equipment	--	6
Transportation Subtotal	938	3,763
SW-1 Reduce Community-Generated Solid Waste	--	3,337
SW-2 Reduce Organic Material in Landfills	1,313	1,872
SW-3 Reuse of Community Goods	Supportive	Supportive
SW-4 Remove and Reduce Single Use Items	--	269
SW-5 Reduce Construction and Demolition Waste	--	362
SW-6 Improve Efficiency of Waste Collection	--	267
SW-7 Reduce City-Generated Solid Waste	Supportive	Supportive
Solid Waste Subtotal	1,313	3,337
UG-1 Urban Forest Inventory	Supportive	Supportive
UG-2 Community Tree Planting	4	12
UG-3 Tree Planting on City Property	--	4
UG-4 Greenspace	--	43
Urban Greening Subtotal	4	59
TOTAL	2,254	20,965
Notes: Measures with "--" in the 2020 column will not be implemented until after 2020 and therefore would not result in GHG reductions until 2035. GHG reductions which are noted in italic text (i.e., W-1, W-3, W-4, W-5, SW-2, SW-4, SW-5, and SW-6) and are not added to the sector subtotals in order to avoid double-counting of GHG reductions under W-1 and SW-1.		



Chapter 4 Implementation and Monitoring

Implementation and monitoring are essential elements of the CAP to ensure that the city reduces its GHG emissions and achieves its emissions reduction targets. To achieve the GHG reductions described in the CAP, the measures and implementation actions must translate from policy language into on-the-ground results that can be measured. This chapter describes how the City will implement the CAP measures, monitor the CAP's performance, and if necessary, alter or amend the plan to ensure that the plan remains effective and on track toward meeting its targets.

Implementation

City Coordination

Upon adoption of the CAP, the City will establish a CAP Coordinator and a multi-departmental CAP Implementation Team. The CAP Coordinator will provide essential CAP oversight and the CAP Implementation Team will be composed of key staff in each department. These individuals will facilitate and oversee the implementation and monitoring of measures for which their department is responsible.

The CAP Implementation Team will meet at the beginning of each year to establish a prioritized list of measures and implementation actions to focus efforts on in the coming year. In addition to annual prioritization meetings, the CAP Implementation Team will also meet at least one time per quarter to assess the status of City efforts. Some actions will require interdepartmental or inter-agency cooperation and appropriate partnerships will be established accordingly.

Public Outreach and Education

Many of the CAP measures rely on local actions to be voluntarily implemented by community members in order to achieve the desired objective and associated reduction in GHG emissions. As such, public outreach and education will be a critical component to the successful implementation of the CAP. The CAP Implementation Team will work with community members and local stakeholders to develop outreach campaigns and facilitate community meetings, workshops, trainings, and other events to increase community awareness and encourage participation in individual CAP implementation.

An effective public outreach campaign should include a diverse combination of strategies and should rely on local community members and organizations to share information with their neighbors. As part of this public outreach strategy, the City intends to facilitate weekly or monthly information/training sessions where local experts will speak to community members regarding individual actions that can be taken to reduce GHG emissions and improve quality of life in La Cañada Flintridge. Each training session would focus on a different CAP-related topic to provide a diversity of information and options to the community.

To facilitate implementation of the CAP, the City has identified an anticipated implementation timeframe, responsible City department, and performance tracking data for each of the CAP measures.

Implementation Timeframe

The implementation timeframe shows the timeframe during which measure implementation should begin.

Timeframes include the following:

- ▷ Near-Term – By 2020
- ▷ Mid-Term – 2021-2030
- ▷ Long-Term – 2030-2035

Responsible Parties

The responsible parties are the City department(s) that will be primarily responsible for implementing, monitoring, and reporting on the progress of the measure and corresponding actions.

Performance Tracking

Performance tracking is the way the City follows each item to monitor and measure progress. The following tables give detailed information about each of the preceeding items.



TABLE 12. NEAR-TERM IMPLEMENTATION - BY 2020

Measure	Responsible Parties	Performance Tracking
T-4 Commute Trip Reduction	Administration Department, Public Works Department	TDM programs available/established Participation rates in TDM programs Rideshare program status Rideshare vehicles purchased Park and Ride facilities available and their capacity Transportation surveys conducted Carpooling programs/groups facilitated
T-7 Low Emissions City Fleet Vehicles	Administration Department	Purchasing policy status Funding identified Low emission vehicles purchased
T-8 High-Density, Mixed-Use, Transit-Oriented and Infill Development	Community Development Department – Planning Division	Square feet and locations of new high-density, mixed-use, transit-oriented and infill development Infill and underutilized parcels identified and developed Community showcase of model development (tours held)
SW-2 Reduce Organic Material in Landfills	Administration Department, Community Development Department – Planning Division, Public Works Department	Composting programs available to residents Composting programs in place at local schools and businesses Kitchen pale/compost bin distribution and/or training events Community surveys related to participating in organic waste reduction Community food waste recycling program status Community outreach conducted
SW-3 Reuse of Community Goods	Administration Department, Public Works Department	Community-wide exchange of good programs available Community-wide exchange of good events held
SW-7 Reduce City-Generated Solid Waste	Administration Department	City waste collection/disposal tonnage
UG-1 Urban Forest Inventory	Public Works Department, Community Development Department – Planning Division	Completion of Urban Forest Inventory
UG-2 Community Tree Planting	Community Development Department – Planning Division	Number of new trees planted

TABLE 13. MID-TERM IMPLEMENTATION - 2020 TO 2030, SHEET 1

Measure	Responsible Parties	Performance Tracking
T-5 Improve Traffic Flow and Reduce Vehicle Idling	Public Works Department	Signal synchronization projects Intelligent Transportation System installations School-related traffic improvements Idling ordinance status Extension of the North Road Traffic flow signage installed Fuel-efficient driving outreach events held
T-6 Low Carbon/Alternative Fuel Vehicles	Administration Department, Public Works Department	EV charging stations and alternative fuel stations installed Community surveys regarding use of electric and alternatively fueled vehicles
T-9 Off-Road Equipment	Public Works Department	Idling limit status Contractor equipment emissions limitation policy status Construction projects which incorporate low emissions equipment
T-10 Lawn and Garden Equipment	Administration Department, Community Development Department – Planning Division	Lawns replaced with xeriscaping Two-stroke leaf blower prohibition status Lawn mowers and leaf blowers replaced with electric alternatives Education and outreach events held
SW-1 Reduce Community-Generated Solid waste	Administration Department, Community Development Department – Planning Division	Community waste collection/disposal tonnage Waste audits conducted at schools and businesses Community drop-off locations for special waste items Special event recycling status
SW-4 Remove and Reduce Single Use Items	Administration Department	Business outreach events held Sustainable food service ware ordinance or fee status Single-use item ban ordinance status
SW-5 Reduce Construction and Demolition Waste	Public Works Department Community Development Department – Planning Division	RAP policy status Projects using RAP Contractor diversion of waste Deconstruction program status
SW-6 Improve Efficiency of Waste Collection	Administration Department, Community Development Department – Planning Division	Inventory waste hauler fleets for low emission trucks Solar powered waste bin feasibility study Solar powered waste bins installed Waste hauler franchise agreement status
A-1 Identify Local Vulnerabilities	Administration Department, Public Works Department	Vulnerability assessment status Funding secured Participating in regional planning efforts Outreach and education events held

TABLE 13. MID-TERM IMPLEMENTATION - 2020 TO 2030. SHEET 2

Measure	Responsible Parties	Performance Tracking
A-2 Improve City's Water Supply	Public Works Department	Impervious surface projects Local water quality Groundwater well use status
A-3 Resilient Systems	Administration Department, Public Works Department	Map and assessment of vulnerable infrastructure Infrastructure improvement project
A-4 Public Preparedness	Public Works Department, Community Development Department – Planning Division, Building & Safety Division	Local Hazard Mitigation Plan status Education and Outreach events held
A-5 Heat Response Plan	Community Development Department – Planning Division, Building & Safety Division	Cooling centers established Cool roofs installed Trees planted to shade buildings or pavement
A-6 Improve Access to Healthy Foods	Administration Department	Community gardening events held Locations of available local and/or organic food Schools serving local and/or organic food
A-7 Habitat Corridors	Community Development Department – Planning Division	Habitat inventory status Habitat restored and/or preserved
A-8 Improve Wildfire Management	Administration Department, Public Works Department	Wildfire management techniques implemented Wildfire home/business assessments conducted Education and outreach events held

TABLE 14. LONG-TERM IMPLEMENTATION - 2031 TO 2035

Measure	Responsible Parties	Performance Tracking
E-1 Energy Action Plan Community Implementation	Community Development Department – Building & Safety Division	Home/business energy audits conducted Energy-efficiency of new development Education/outreach events held Community surveys related to energy efficiency improvements
E-2 Community-wide Renewable Energy	Community Development Department – Building & Safety Division	Solar PVs installed Solar water heaters installed Outreach events conducted
E-3 Energy Action Plan Municipal Implementation	Public Works Department	Energy efficiency projects implemented Municipal energy usage reductions
W-1 Energy Action Plan Water Measures Implementation and Water Conservation Plan	Administration Department, Public Works Department	Water Conservation Plan status Tiered-rate water structure status Community outreach/education conducted
W-2 Water Efficient Retrofits and Upgrades	Administration Department, Public Works Department	Home/business water audits conducted Education/outreach events held Community surveys related to water efficiency improvements
W-3 Water Efficient New Development	Public Works Department, Community Development Department – Planning Division, Building & Safety Division	Water efficient new development ordinance status Water-efficiency of new development
W-4 Expand Recycled Water	Public Works Department	Recycled water projects implemented Laundry-to-Landscape and rain barrel programs held
W-5 Municipal Water Conservation	Public Works Department	Water reduction projects implemented Municipal water usage reductions
T-1 Bicycle, Pedestrian and Equestrian Network	Public Works Department	Bicycle, pedestrian and equestrian network improvement projects (bicycle lanes, racks, lockers, tool repair stations, and sidewalk installed) Bicycle Master Plan status Bikeshare program status
T-2 Improve Safety and Comfort for Bicycles, Pedestrians, and Equestrians	Public Works Department	Bicycle, pedestrian and equestrian safety improvement projects Outreach and education events held Safe-Routes –to-School program status
T-3 Transit Network and Accessibility	Administration Department, Public Works Department	Transit network expansions and improvement Transit pass sales and ridership
UG-3 Tree Planting on City Property	Public Works Department	Number of trees planted on City property
UG-4 Greenspace	Community Development Department – Planning Division, Public Works Department	Greenspace installed

Monitoring

The key to long-term success in climate action planning is to periodically measure and track reductions associated with the City's climate action measures. By doing so, the City can ensure that it is getting results. If the City is not getting the anticipated results, then it can reevaluate strategies and decide whether alternative measures are necessary. This section describes the two ways to monitor and track progress, which include evaluation of the individual measures and evaluation of the plan as a whole.

Measure Evaluation

The City CAP Coordinator, in coordination with the CAP Implementation Team, will be responsible for developing an annual progress report to the City Council regarding measure implementation. This evaluation may be submitted to the City Council in conjunction with the General Plan status report for that year as required by State Government Code Section 65400. The progress report will:

- ▷ Identify the implementation status of each measure
- ▷ Evaluate achievement of, or progress toward performance objectives
- ▷ Assess the effectiveness of measures included in the CAP

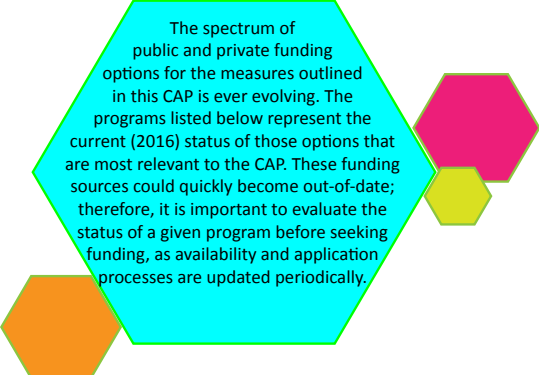
- ▷ Report on the State's implementation of state-level measures included in the CAP
- ▷ Recommend adjustments to actions or tactics, as needed

The performance objectives, provided for each quantified measure, identify the level of participation or performance required to achieve the estimated level of GHG emissions reductions by 2020 and 2035. The City should track performance indicators for each measure annually. While a full GHG emissions inventory is necessary to assess community-wide and local government progress toward the 2020 and 2035 goals, tracking performance objectives can provide an indication of progress between inventories and provide insight on the effectiveness of specific actions. By evaluating whether the implementation of a measure is on track to achieve its performance criteria, the City can identify successful measures, and re-evaluate or replace under-performing measures.

Plan Evaluation

To evaluate the performance of the CAP as a whole, the City will update the community and municipal GHG inventories every five years using the most up-to-date calculation methods, data, and tools. Inventory updates provide the best indication of CAP effectiveness as they will allow for comparison to the 2007 baseline and 2014 inventory. If an update reveals that the plan is not making progress toward meeting the GHG reduction target, the City will adjust the measures as necessary.

The City CAP Coordinator, in coordination with the CAP Implementation Team, will be responsible for initiating the inventory updates as well as reporting on the results and progress toward the targets in the annual report to the City Council. In addition, the report will include an assessment of the State's implementation of state-level measures included in the CAP to determine whether adjustments to the CAP should be made to account for any shortfalls in their implementation.

A cluster of four hexagons in orange, cyan, magenta, and yellow-green colors.

The spectrum of public and private funding options for the measures outlined in this CAP is ever evolving. The programs listed below represent the current (2016) status of those options that are most relevant to the CAP. These funding sources could quickly become out-of-date; therefore, it is important to evaluate the status of a given program before seeking funding, as availability and application processes are updated periodically.

Funding Resources, Financing, and Incentive Programs

One of the main barriers to an implementation and monitoring plan is lack of available funds. There are multiple grant and loan programs through state, federal, and

regional sources to reduce GHG emissions. This section identifies potential funding sources that the City could pursue to offset the financial cost of implementing the CAP measures.

The City can, in part, provide funding for various measures outlined in this CAP. This can be accomplished through the City's annual budgeting and Capital Improvement Program process, which provides an opportunity for citizen input and guides decision-makers while helping them set priorities. The City can also partner with SCAQMD, SCAG, SGVCOG, Los Angeles County Metropolitan Transportation Authority, Southern California Edison, Los Angeles County, community-based organizations, and private companies for joint programs.

A cluster of four hexagons in magenta, yellow-green, orange, and cyan colors.

Partnerships with Other Jurisdictions + Community Organizations

Partnering with neighboring jurisdictions and community organizations is a key implementation strategy supporting the CAP. Various jurisdictions and organizations in the County could serve as potential partners in implementing the CAP strategies. The City should seek to partner with appropriate local and regional agencies or organizations, as identified in CAP measures.

TABLE 1.5. ENERGY-RELATED FUNDING SOURCES AND FINANCING/INCENTIVE PROGRAMS. SHEET 1

Source	Agency	Type	Applicability
Clean Renewable Energy Bonds (CREBs)	U.S. Internal Revenue Service	Bonds	Public sector renewable energy projects
Qualified Energy Conservation Bonds (QECBs)	U.S. Internal Revenue Service	Bonds	State, local and tribal governments energy projects
Business Energy Investment Tax Credit	U.S. Internal Revenue Service	Tax credit	Commercial, Industrial, Investor-Owned Utility, Municipal Utilities, Cooperative Utilities, and Agricultural sectors for solar, fuel cells, small wind turbines, geothermal systems, microturbines, combined heat and power
Residential Renewable Energy Tax Credit	U.S. Internal Revenue Service	Tax credit	Residential energy property applies to solar-electric systems, solar water heating systems, fuel cells, small wind-energy systems and geothermal heat pumps
Residential Energy Conservation Subsidy Exclusion	U.S. Internal Revenue Service	Tax exemption	Energy conservation measures implemented in private residences
Rural Energy for America Program (REAP) Energy Audit and Renewable Energy Development Assistance (EA/REDA) Program	U.S. Department of Agriculture	Technical assistance & site assessment	Agricultural producers and rural small businesses for energy audits and renewable energy
Loan Guarantee Program	U.S. Department of Energy	Loan guarantee	Early commercial use of new or significantly improved technologies in energy projects; the loan guarantee program generally does not support research and development projects

TABLE 15. ENERGY-RELATED FUNDING SOURCES AND FINANCING/INCENTIVE PROGRAMS. SHEET 2

Source	Agency	Type	Applicability
Weatherization Assistance Program	U.S. Department of Energy	Grant	States, territories, and some Indian tribes to improve the energy efficiency of low-income homes in their jurisdictions
Low Income Home Energy Assistance Program (LIHEAP)	U.S. Department of Health and Human Services	Resources & assistance	Helps low income families in managing costs associated with home energy bills, energy crises, and weatherization and energy-related minor home repairs
PowerSaver Loan Program	Federal Housing Administration	Financing options	Homeowners for home energy efficiency and renewable energy upgrades or improvements
Sustainable Energy Bond Program	California Statewide Communities Development Authority & Foundation for Renewable Energy and Environment	Tax exempt financing	Public agencies and nonprofit organizations throughout California for critical sustainable energy investments
Energy Upgrade California Home Upgrade	Southern California Edison	Financial incentives	Homeowners for installing approved energy upgrades in homes
California Investor Owned Utilities (IOUs) Programs	Southern California Edison	Rebates, financing assistance, design and building benchmarking assistance, educational seminars, and other forms of assistance	Customers for specific energy efficiency technology.
On-Bill Financing	Southern California Edison	Interest-free, unsecured financing	Qualified commercial and government-funded customers for the installation of energy-efficient upgrades

TABLE 1.5. ENERGY-RELATED FUNDING SOURCES AND FINANCING/INCENTIVE PROGRAMS. SHEET 3

Source	Agency	Type	Applicability
Local Government Renewable Energy Self-Generation Bill Credit Transfer Program (RES-BCT)	Southern California Edison	Generation credits	Local governments with one or more eligible renewable generating facilities
California Solar Initiative – Solar Thermal Program	Southern California Edison	Financial incentives	Customers for solar water heaters, solar process heating, solar cooling, and non-residential solar pool heating
Self-Generation Incentive Program	California Public Utilities Commission	Financial incentives	Customers who produce electricity with wind turbines, fuel cells, various forms of combined heat and power (CHP) and advanced energy storage
Energy Efficiency Financing Program	California Energy Commission	Low-interest loans (1%)	Local jurisdictions to finance energy efficiency and renewable energy projects in their buildings and facilities

TABLE 1.6. TRANSPORTATION-RELATED FUNDING SOURCES AND FINANCING/INCENTIVE PROGRAMS

Source	Agency	Type	Applicability
Livability Grant Program	U.S. Department of Transportation, Federal Transit Administration	Resources, training, grant funding	Local governments for projects for accessible, livable, and sustainable communities
Bus and Bus Facilities Discretionary Program	U.S. Department of Transportation, Federal Transit Administration	Capital assistance	Local governments for new buses and intermodal transit centers
Bus Livability Discretionary Grants Program	U.S. Department of Transportation, Federal Transit Administration	Capital assistance	Local governments for projects that increase transportation options, provide access to jobs and affordable housing, encourage economic development, and improve accessibility to transportation for the public
Intercity Bus Program	U.S. Department of Transportation, Federal Transit Administration	Capital assistance	Local governments for transit access to residents in non-urbanized areas
Rural Transit Assistance Program	U.S. Department of Transportation, Federal Transit Administration	Capital assistance	Local government for the design and implementation of training and technical assistance projects and other support services tailored to meet the needs of transit operators in non-urbanized areas
Alternative and Renewable Fuel and Vehicle Technology Program	California Energy Commission	Grants, loans, loan guarantees, revolving loans	Public agencies, private businesses, public-private partnerships, vehicle and technology consortia, workforce training partnerships and collaboratives, fleet owners, consumers, recreational boaters, and academic institutions to develop and deploy alternative and renewable fuels and advanced transportation technologies
Sustainable Transportation Planning Grant Program	Caltrans	Grant	Transportation planning efforts that promote sustainability and support the following overarching objectives: sustainability, preservation, mobility, safety, innovation, economy, health, and equity
Infrastructure State Revolving Fund Program	California Infrastructure and Economic Development Bank	Low-cost financing	Public agencies for a wide variety of infrastructure projects
Call for Projects and Transportation Improvement Program	Los Angeles County Metropolitan Transportation Authority	Funding	Local jurisdictions, transit operators, and other public agencies for regionally significant projects including signal synchronization, transportation demand management, bicycle improvements, pedestrian improvements, and transit
SCAQMD Grants and Incentives	South Coast Air Quality Management District	Funding	Public agencies, business, and residents for low emissions lawn equipment, measures or projects that result in the reduction of motor vehicle emissions, cleaner heavy-duty diesels and mobile source emission reduction credits (MSERCs) that can be used to offset emissions from stationary sources

TABLE 17. OTHER FUNDING SOURCES AND FINANCING/INCENTIVE PROGRAMS

Source	Agency	Type	Applicability
Beverage Container Recycling Grant and Payment Programs	California Department of Resources Recycling and Recovery (CalRecycle)	Grant	Local governments, businesses, individuals, and non-profit organizations for projects that implement new programs or enhance existing programs to provide convenient beverage container recycling opportunities in various locations statewide. Eligible projects include, but are not limited to, the following locations: parks and recreational areas, sporting complexes, community events, office buildings, multifamily dwellings, restaurants, and schools and colleges.
Water-Energy Grant Program	Department of Water Resources	Grant	Local agencies, joint powers authorities, and nonprofit organizations to fund residential water efficiency, commercial water efficiency, institutional water efficiency programs, or projects that reduce GHG, reduce water and reduce energy use
Urban and Community Greenhouse Gas Reduction Fund Grants	California Department of Forestry and Fire Protection (CAL FIRE)	Grant	Environmental justice communities to create or implement multi-benefit projects with a focus on reducing GHG emissions



References + Preparers

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